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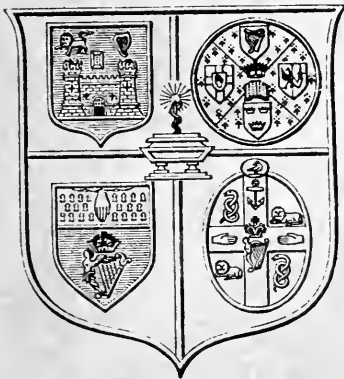
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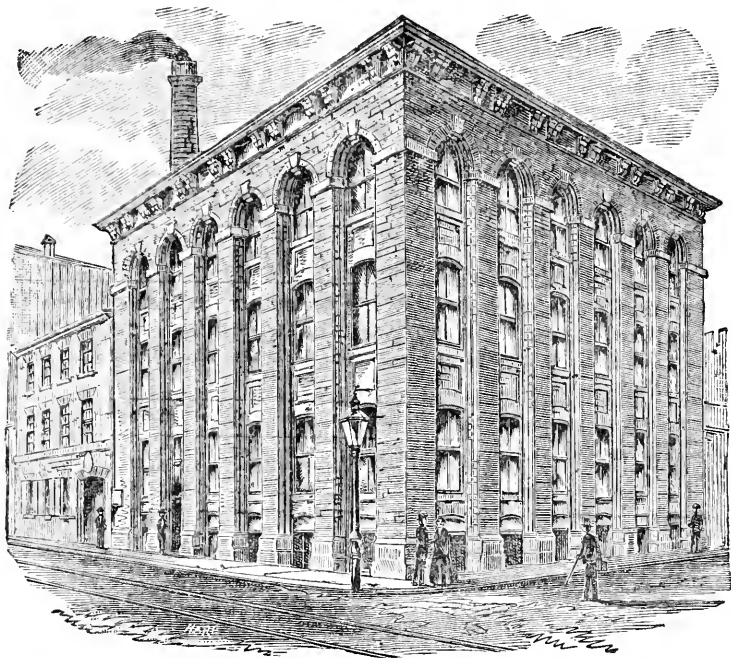
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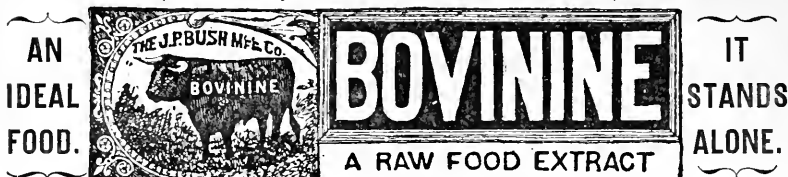
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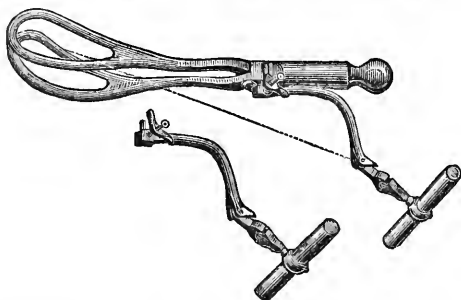
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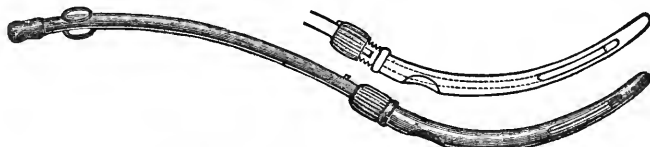

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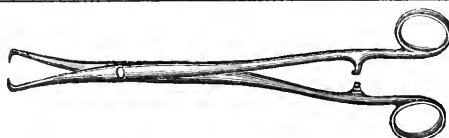
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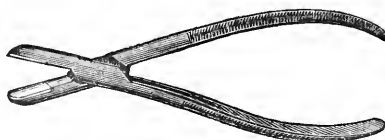
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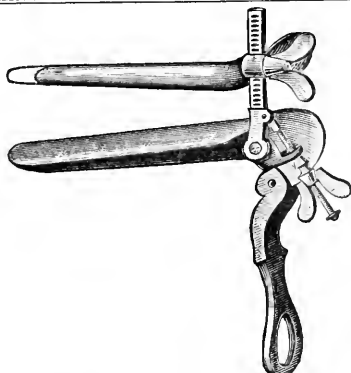
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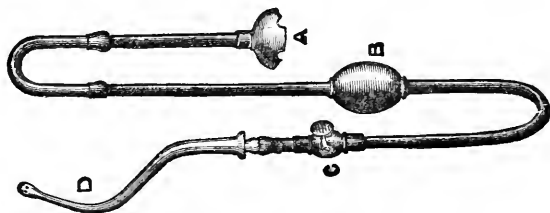


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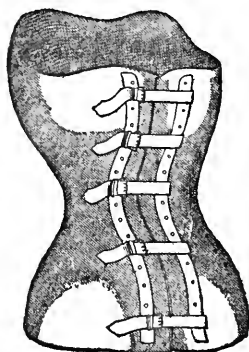
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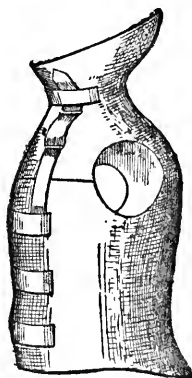
„ waist.

„ hips.

Length from axilla to great trochanter.

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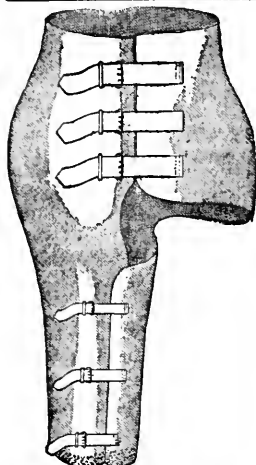
Length from below knee to ground.

„ of foot.

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 " hips.  
 " thigh, top of  
 " above knee.  
 Length from waist to groin.

State if for right or left side.



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Circumference at top of thigh.  
 " above knee.  
 " at knee.  
 " below knee.  
 " calf.  
 " ankle.  
 Length from groin to centre of knee.  
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*Extract from "CHEMIST & DRUGGIST," August 8th, 1891.*

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2. The New York Journal of Gynecology and Obstetrics. December, 1891. Vol. I. No. 2. New York: Fairchild & Co.
3. Ophthalmic Notes. By A. Vernon Ford, M.R.C.S. Eng. London: Baillière, Tindall, & Cox. 1891. 8vo. Pp. 107.
4. Indigestion. By Thomas Dutton, M.D. Univ. Durh. London: Henry Kimpton. 1892. 8vo. Pp. 143.
5. A Treatise on Diseases of the Lungs and Pleura. By the late Wilson Fox, M.D., F.R.S. Edited by Sydney Coupland, M.D., F.R.C.P. London: J. & A. Churchill. 1891. 8vo. Pp. 1200.
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8. Bulletin of the Johns Hopkins Hospital. Volume II. No. 18. Baltimore. November, 1891.
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10. A Study of Experimental Pneumonitis in the Rabbit. By T. Mitchell Prudden, M.D. New York: D. Appleton & Co. 1891. Reprint. Pp. 18.
11. Statement of Mortality in the Principal Cities of Canada for the Month of November, 1891.
12. Atlas of Clinical Medicine. By Byrom Bramwell, M.D., F.R.C.P. Edin. Vol. I. Part III. Edinburgh: T. & A. Constable.
13. A Treatise on the Ligation of the Great Arteries in Continuity. By Charles A. Ballance, M.B., M.S. Lond.; and Walter Edmunds, M.A., M.C. Cantab. London: Macmillan & Co. 1891. 8vo. Pp. 568.
14. A Dictionary of Treatment, or Therapeutic Index. By William Whitla, M.D. London: Henry Renshaw. 1892. 8vo. Pp. 948.
15. Archives of Surgery. By Jonathan Hutchinson, LL.D., F.R.S. Vol. III. No. 11. January, 1892.
16. Revue Général de Médecine, de Chirurgie, et d'Obstétrique. Première Année. Nos. 1, 2 et 3. Janvier, 1892. Paris: O. Doin.
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18. The Medical Bulletin. Vol. XIII. No. 12. December, 1891.
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21. A Hint to the Literary Men of the Profession. By Charles Perry Fisher. Reprint. December, 1891. Pp. 4. Philadelphia.
22. The Atmospheric Tractor and the Uterine Safety Tube. By P. M'Gahey, M.D., of Philadelphia. Reprint. November, 1891. Philadelphia: James T. O'Callahan. Pp. 14. 1891.
23. The Treatment of Typhoid Fever. By James Barr, M.D., Physician to the Northern Hospital, Liverpool. London: H. K. Lewis. 1892. 8vo. Pp. 212.
24. The National Bulletin. Nos. 60, 61, 62, 63. January, 1892.
25. The Journal of the British Dental Association. Vol. XIII. No. 1. January 15, 1892. London: Baillière, Tindall & Cox.
26. On the Medical and Surgical Uses of Electricity. By Geo. M. Beard, A.M., M.D.; and A. D. Rockwell, A.M., M.D. Eighth Edition. London: H. K. Lewis. 1891. 8vo. Pp. 788.
27. A Treatise on the Diseases of Infancy and Childhood. By J. Lewis Smith, M.D. Seventh Edition. London: H. K. Lewis. 1890. 8vo. Pp. 900.
28. The Pathology of Mediastinal Tumours with special reference to Diagnosis. By John Lindsay Steven, M.D. London: H. K. Lewis. 1892. 8vo. Pp. 100.
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GENERAL SECRETARY;

Surgeon to the Richmond Hospital, Dublin.

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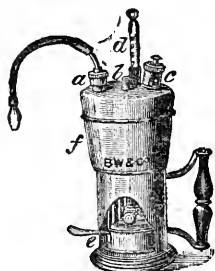
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# THE DUBLIN JOURNAL

OF

## MEDICAL SCIENCE.

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FEBRUARY 1, 1892.

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### PART I.

### ORIGINAL COMMUNICATIONS.

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ART. IV.—*Nephro-Lithotomy*.<sup>a</sup> By T. MYLES, M.D.; Fellow, Member of Council and Professor of Pathology, Royal College of Surgeons; Surgeon to the Richmond Hospital; Member of Council, Section of Surgery, Royal Academy of Medicine in Ireland.

ALTHOUGH the operation for the removal of stone in the kidney has now been performed fairly frequently, nevertheless, as the subject is one of extreme interest and importance, I trust I may be forgiven for bringing before you a short notice of a successful case that occurred in my practice, not with the hope of being able to add anything to your general fund of information, but rather with the anticipation that the discussion—which I trust will follow the paper—may enable us to obtain the opinions and practice of men whose experience in this branch of surgery is greater than mine.

My case is that of a young man, who was brought to me by my friend, Mr. Louis A. Byrne, now Surgeon to Jervis-street Hospital, and whose history and symptoms suggested the possibility of his having a stone in the kidney. The symptoms were by no means clear or typical. He complained of dull, aching pain in the left loin, not very severe and not paroxysmal; the pain was increased by effort, or coughing, and with this he had intense tenderness on pressure. He had no attacks of renal colic, nor any

<sup>a</sup> Read before the Section of Surgery in the Royal Academy of Medicine in Ireland, on Friday, December 11, 1891. [For the discussion on this paper, see page 66.]

increased frequency of micturition, nor had he ever passed any calculous fragments with his urine. His urine was practically normal, acid in reaction, contained neither pus nor blood, and was normal in specific gravity and quantity. The young man himself—twenty years of age—looked in perfect health, having a good complexion, and being free from any emaciation or cachexia.

I had him admitted to Jervis-street Hospital, to which institution I had then the honour to belong, and he was seen several times by my colleagues in consultation.

As the symptoms were not conclusive, nor his distress urgent, I tried the usual palliative treatment for some time—hot baths, alkaline diuretics, opium occasionally, and hot stupes over loin.

His condition was not in any way ameliorated by this treatment, and he still complained of the same dull pain that he had previously suffered from. One day the sister in charge of the ward told me that she thought the lad suffered much more pain than he acknowledged, as she noticed him frequently when sitting at his meals clutch violently at the edge of the table, hold his breath, and look deadly pale and sick, as if suffering great agony.

On pressing him more closely he confessed that, during the last few days he had suffered from these attacks, but he had not mentioned them, as he thought it might be the medicine he was getting that was expelling the stone, and that his sufferings were therefore merely the prelude to his complete recovery.

The diagnosis being now more satisfactorily established, I at once suggested an operation, to which he willingly consented.

I need not describe the now familiar details of lumbar nephrotomy, but will merely state that after the usual incision had been made parallel to the lower border of the last rib, and one inch below it, and the perinephric fat exposed, on pushing my finger into the wound and passing over the anterior surface of the kidney, which was apparently perfectly normal, I felt a large, hard, tightly-fixed lump, which at first, from its position, I believed to be a bony tumour growing from the front and sides of the spinal column. On more careful manipulation, however, I soon had the gratification of feeling that it was continuous with the kidney, and was in reality a large calculus imbedded in the pelvis of the ureter, which it had carried somewhat inwards, and sending short processes outwards into the hilum of the kidney.

The difficulty now was how to remove it. On the one hand, it was obviously too large to be removed by cutting through the

kidney periphery, and any attempt to remove it by cutting on the face of the pelvis was bound to give rise to dangerous hæmorrhage from the distended renal veins, which could be seen stretched right in front of the stone.

Acting on the suggestion of one of my colleagues, I determined to attack it from behind, and with that object proceeded to gently raise the kidney off the quadratus lumborum muscle, and draw it forwards in the wound, so as to leave room for my fingers to touch its posterior and inner surface. I could now feel the calculus very clearly, and ascertained that at one part the investing pelvis was extremely thin. Through that thinned portion I now scratched cautiously with a director, and made a comparatively small opening; a little gentle fingering now enabled me to revolve the stone upon its axis, and coax it out of the kidney. Through the wound in the pelvis I now explored the rest of the kidney thoroughly for another stone, but did not find any.

The wound was now well douched, all bleeding vessels clamped and ligatured, and the edges brought together with stout silk sutures; a large drainage tube was passed as far as the kidney, and fixed by a suture to the skin.

I will not weary you with a dry detail of his subsequent progress from day to day, but will merely state that, with one exception, the boy made an uninterrupted recovery, and I had the honour to show him last year at a meeting of the Surgical Section, perfectly well and able to follow his usual avocation.

The exception to which I referred was the fact that for four days after the operation he had profuse hæmaturia—so much so, indeed, as at one time to cause me considerable anxiety. He was put on 10 minim doses of hazeline, which acted like a charm in arresting the bleeding; from that on his recovery was rapid.

This case of itself is not of any special interest, except from the fact that the symptoms were obscure at first, and that the stone was very large, weighing 282 grains! being, I think, the largest ever removed unbroken by any surgeon in Ireland, and, as anyone can see who examines it, it is almost a perfect mould of the pelvis and infundibula.

Although there is nothing very startling in the case, nevertheless I bring it forward in the hope that it may act as text upon which more skilful preachers may lay down the law, and some clear and definite decision may be arrived at upon some of the many interesting and as yet doubtful details of the operation.

1st. Having diagnosed the existence of a stone in the kidney, how should it be removed?—by the simple lumbar incision, or by the combined method of Thornton?

This latter method, which has been so strongly advocated by its originator, consists in opening the abdomen in the linea semi-lunaris, placing the hand in the cavity, and feeling the kidney for the stone, and having found it, the kidney is steadied with the hand in the abdomen, while the surgeon, turning the patient slightly on his side, cuts boldly down to the kidney from the loin by a short incision; the stone is then cut out and removed by the lumbar wound.

This seems at first rather a startling addition to lumbar nephrotomy, inasmuch as it superadds an abdominal exploration to the main operation; nevertheless, its author asserts that it has undoubted advantages, which he briefly specifies as follows:—

1st. Certainty that the patient has two kidneys.

2nd. There is less danger of overlooking the stone.

3rd. There is no danger of cutting into the wrong kidney—an accident of not uncommon occurrence.

4th. There is no danger of wounding either the colon or the peritoneum.

5th. As the wound is small there is no danger of a loin hernia, and less danger of urinary extravasation or fouling of the wound.

6th. The condition of the ureter and of the other kidney can be ascertained.

7th. The kidney can be thoroughly steadied during the subsequent steps.

On the other hand, Mr. Thornton says the only objection to the method is the addition of another wound, which, he says, is of very little importance in the hands of a cleanly surgeon.

Although considerable difference of opinion may exist as to the value of some of these so-called advantages, there can be no doubt whatever but that two of them are of great importance—namely, the assurance that you are cutting on the pathological kidney and not on the healthy one, and the benefit to be derived from having the kidney thoroughly fixed.

It may seem absurd at first sight to contemplate the possibility of cutting into the wrong kidney, but every practical man knows well that it may occur to the most careful surgeon, as it has occurred already to some of the most distinguished.

A patient with a stone in the kidney may refer the pain to the



healthy side, and complain of no pain in the diseased side; or more frequently he complains of pain in both sides, and it becomes a matter of the most extreme difficulty to make sure whether there is not a stone in both kidneys, or if in one only, in which one?

In such a case Mr. Thornton says the abdominal section converts doubt into certainty, and by rendering a possible second operation unnecessary, adds greatly to the chance of a safe issue from the patient's danger. Now is this true? If it be absolutely true, I think no one would question the propriety of the method in all cases where there was any reasonable doubt as to the exact seat of the stone. But is it really absolutely true that an abdominal section enables a surgeon to discover the presence of a stone in the kidney?

I would, with great deference to such distinguished authority, venture to suggest that even the most careful and accomplished surgeon may fail to recognise a stone in the kidney by exploration with the hand in the abdomen, and I would go even further, and point out that it has occurred that, even after a kidney has been removed and laid on the table, the most careful palpation has failed to discover a stone actually in the organ.

If this be possible, even with a removed kidney, how much more probable does such a failure become when we endeavour to explore the kidney covered in front by colon and tightly stretched peritoneum, and with its hinder border and inner surface entirely out of our reach. Through such an abdominal wound no surgeon would venture to needle the kidney, and yet how often has the needle disclosed a stone unrecognised by the most careful palpation. Again, if the kidney is seriously diseased, and if its sinus is dilated by abscess formation, its coverings thickened by an inflammatory process, and the viscera matted together in front of it by localised peritonitis, how easily may a stone escape detection by palpation through an abdominal wound.

Further, we are all aware that small stones usually lie concealed in the calyces of the ureter deep in the kidney sinus, and that detection of such stones is frequently possible only by sounding through an incision in the lower border of the pelvis, or through the kidney substance. How can we use this important aid through an abdominal incision?

I think I have said enough at least to show that Mr. Thornton's method, so far as its being an aid to certainty of diagnosis is concerned, is not altogether unassailable.

The other asserted advantage which I have, merely for purposes of convenience, placed second to the question of diagnosis is the claim that the kidney can be fixed by the hand in the abdomen, and the necessary manipulations for the removal of the stone thereby more rapidly and successfully performed.

No one, I think, will question the statement that the great difficulty in lumbar operations arises from the fact that the kidney has an unhappy tendency to glide away from the fingers when the patient is lying on the opposite side, and this combined with the occasionally very narrow ilio-costal space renders manipulation through the wound difficult and tedious. Anything, therefore, which steadies the kidney must be beneficial, and the only point at issue really is, can this steadiness be obtained in no other way except by a *sectio-abdominis*?

I think it can, and the alternative method is that mentioned by Mr. Thornton himself, of placing the patient almost flat on his back, with the wounded side overhanging a pretty high table, while an assistant applies to the front and opposite side of the abdominal wall steady and continuous pressure. By such a method the kidney can be fixed, and when we remember that in any case the stone must be removed by the loin incision, the adoption of such a method, if proved feasible, would render the abdominal wound unnecessary. Further, the so-called fixing of the kidney by pressure from within is not free from danger, it can only be obtained by traction on the fragile renal vein, and I need hardly delay to point out the possible catastrophe that might result from such traction.

I have spent some time in considering these two reputed advantages of Mr. Thornton's method, because they are, to my mind, the only ones of real importance; the others are hardly worthy of notice.

His claim that his method prevents a patient with only one kidney being operated on, is simply puerile. It may prevent him from having his kidney cut open, but it does not hinder the abdominal section, and simple as that operation is, a patient with only one kidney runs a poor chance of surviving it. Again, I venture to state that the combined experience of this Academy would fail to register more than half a dozen cases out of the thousands of bodies examined in the dissecting and *post-mortem* rooms, in which only one kidney was found. So also the dangers of subsequent lumbar hernia, and of wound of the colon in the loin operation, are greatly exaggerated.

I think I am justified, therefore, in stating that I have shown that the claims which Mr. Thornton makes for his combined operation are based upon arguments that are at least open to question, and that the added dangers of the extra incision more than compensate for any possible advantages it may possess.

Before concluding, I would like to obtain the opinion of the Section on some details of the lumbar operation:—

1st. Is Mr. Jordan Lloyd's method of sounding each calyx by a Child's sound inserted through the pelvis of the ureter feasible? At the very least I should say it must be extremely difficult in all cases where the ilio-costal space is narrow, as owing to the depth of the kidney the movements of the sound must necessarily be very limited, and even its mere introduction cannot be easy.

2nd. The stone having been found, how should it be removed? By section through the kidney substance, or by cutting into the ureter? Against the former is the danger of hæmorrhage and additional shock; against the latter the possibility of a permanent fistula.

I think a great deal of confusion has arisen in connection with this particular matter, by the very loose and unscientific way in which anatomical names are used. For instance, one writer says—"I cut into the pelvis of the kidney from the front." Now he could not do this, because the kidney has no pelvis, and if his statement means that he cut into the pelvis of the ureter from the front, I say that no surgeon in his sober senses would do it when he remembered that the renal veins and artery completely conceal nine-tenths of the pelvis, and that any attempt to do it would be simply the recklessness of anatomical ignorance.

What then do such statements mean? The answer is simply—nothing; the operator cut something, and, let us hope, found the calculus, but what he cut we do not know, and probably never shall. I may add, that even such an accomplished surgeon and anatomist as Mr. Treves is guilty of this unpardonable mistake, as in his recently published work on operative surgery, having first carefully described the relations of the pelvis, calyces, &c., he subsequently lapses into the error of speaking one moment of the pelvis of the ureter and in the next of the pelvis of the kidney. Such a lack of scientific accuracy can lead to nothing but confusion, no one knows what is meant, and the value of all descriptions of such operations is simply *nil*.

I will now conclude by thanking you and the members of the

Section for the kind attention you have given, and as the object of my paper was to obtain information rather than to give it, I trust that the more experienced nephrotomists will give us their opinions on what I venture to call points of importance in connection with nephro-lithotomy.

ART. V.—*Some Recent Aids to the Diagnosis and Treatment of Diseases of the Stomach.*<sup>a</sup> By H. C. TWEEDY, M.D. Dubl., F.R.C.P.I.; Physician to Steevens' Hospital.

AT the commencement of last year's Session this Academy had the privilege of hearing from Professor Purser a dissertation on "The Modern Diagnosis of Diseases of the Stomach," which will long be remembered by all of us who were present on that occasion.

The absolute clearness with which this complex subject was treated, and the closeness of reasoning displayed, following each point to its logical conclusion, were sufficient to account for the lasting impression left upon our minds, while the labour and research evidenced in every page render the lecture, now fortunately preserved for us in the Transactions of the Academy, a perfect storehouse of information for all who may wish to refer to the extensive literature of Diseases of the stomach.

Dr. Purser dwelt chiefly on the modifications the digestive process, as carried on in the stomach, undergoes in disease. In this paper I shall endeavour to lay before you very briefly some mechanical aids now at our disposal for the physical examination of the organ itself, for obtaining portions of its contents for chemical analysis, and for the treatment of some of its most common diseases.

I shall submit to your consideration two methods of physical examination which, as far as I am aware, are not employed here as frequently as they should be. Also two recent appliances—one for obtaining small quantities of stomach-contents for diagnostic purposes, and the other for applying electricity directly to the stomach.

The first mode of physical examination to which I would draw your attention is what has been termed the "Splashing Sound," or "Clapotement"—a method of examination much lauded by Riegel,

<sup>a</sup> Read before the Section of Medicine in the Royal Academy of Medicine in Ireland, on Friday, December 18, 1891. [For the discussion on this paper, see page 68.]

Obratzsoff, Boas,<sup>a</sup> and others who state that they find it gives better results than percussion.

This sound may be elicited by pressing repeatedly with the tops of the fingers in the epigastric region. Its lower limit rarely extends below the level of the umbilicus, unless the stomach be dilated, or else displaced downwards. It may be heard in healthy persons more or less plainly if they have taken a large quantity of fluid, or if the abdominal walls are relaxed, and not overloaded with fat.

This method has a double utility. In the first place, we may be able to ascertain by it the size and position of the stomach. If, for instance, we palpate very gently from below upward till splashing is perceptible, then we may in many cases be able to arrive at a fairly accurate conclusion as to the contour of the stomach; and not only so, but we may also get an idea as to the condition of its muscular layer, for let a healthy person drink 50 or 100 grammes of water we can detect no splashing, even when the abdominal walls are thin; on the other hand, if the muscular layer of the stomach be wanting in tone (although there may be no dilatation or retention of the food taken), the sound may be produced very distinctly by the above-mentioned quantity of water, or even by a smaller quantity.

Under some circumstances splashing may originate in the transverse colon; but in this case the splashing is found along a straight line, or along a curve which is slightly convex *above*, and may thus be distinguished from that originating in the stomach by the fact that the latter forms a convex line *below*, and ascends distinctly from the median line. Should these differences not be distinctly marked, we may inflate the stomach by means of a tube and double-rubber bulb. After insufflation of air the splashing sound in the stomach ceases, while that in the colon persists; but as soon as the air is allowed to escape from the stomach the splashing sound immediately reappears.

This artificial distension of the stomach by gas or air has been much employed on the Continent as an aid to diagnosis, with the object of enabling us to map out the contour of the organ, especially the greater curvature in a more accurate manner. It was originally introduced by Frerichs and Mannkopf, who carried out the process by generating CO<sub>2</sub> by the separate introduction of solution of tartaric acid and bicarbonate of sodium. Boas and others

<sup>a</sup> Allgemeine Diagnostik und Therapie der Magenkrankheiten. Leipzig. 1890.

accomplish the same object, gradually inflating the stomach by means of the double-rubber bulb, attached to an ordinary stomach tube. This method, which was first employed by Runeberg, possesses striking advantages over insufflation by  $\text{CO}_2$ .

In the first place the quantity of air employed can be accurately gauged and controlled, so as to increase or diminish it according to circumstances. Moreover, the estimation of the amount of air employed is of itself useful for diagnostic purposes, as a relaxed and dilated stomach requires much larger quantities of air than a healthy stomach with normal muscular tone. The outlines of the stomach are also brought into greater prominence, so that the portion of it lying against the abdominal wall can, as a rule, be palpated thoroughly and without undue haste, whereas in the carbonic acid method this can only be done while the development of the gas is taking place; for as soon as this process is completed the  $\text{CO}_2$  escapes rapidly from above or below, and the stomach again contracts before a thorough examination can be made.

During artificial distension of the stomach with  $\text{CO}_2$  or air, it sometimes happens that the stomach itself does not become enlarged, but that the outlines of the intestines become unduly prominent. This condition was first observed by Ebstein, and described as insufficiency of the pylorus. Boas and Ewald have demonstrated, however, that these cases are accompanied by an abnormally rapid faecal evacuation, and both writers are of opinion that, aside from insufficiency of the pylorus, there is in such cases an accelerated discharge into the intestines of alimentary substances undigested in the stomach.

Numerous methods have been suggested with the object of demonstrating the size, position, and capacity of the stomach; notably those of Schreiber, Rosenbach, Fleischer, Jaworski, and others, all of which may be found fully described in Boas's recent work. Also the attempts at electric illumination of the stomach by gastrodiaophany, as lately proposed by Dr. Eiuhorn, by means of a Nélaton's tube, provided with an Edison's incandescent lamp, on the plan of Voltolini's method of illuminating the larynx.

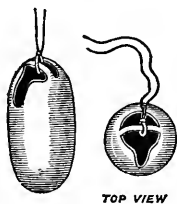
These methods, however curious and interesting, are practically useless now that we possess in insufflation a procedure which is both certain and devoid of danger when practised under proper precautions. Boas lays down the following contra-indications to the use of air or  $\text{CO}_2$ , as well as to the introduction of the sound :—(a.) Constitutional or local diseases in which the irrita-

tion connected with use of the sound, or insufflation, may enhance the disease or threaten the patient's life; (*b.*) Gastric and intestinal diseases, which can be diagnosed without resort to the sound, &c.—especially gastric ulcer and adhesions of the stomach-walls, and also suspected atrophy of the gastric mucous membrane.

There is one purpose for which up till very recently the use of the stomach-tube has been regarded as indispensable—viz., the obtaining of portions of the contents of the stomach for chemical analysis by Ewald's<sup>a</sup> "expression method." There are sometimes, however, difficulties in this mode of examination which, all important as it undoubtedly is, render both doctor and patient too ready to dispense with it, often to their mutual injury.

Several contrivances have been suggested as alternatives for the use of the tube. Edinger and Späth<sup>b</sup> suggested that the patient should be made to swallow particles of elder-pith, stained with appropriate re-agents, or leaden balls, to which are attached threads stained with the test re-agent.

Edinger<sup>c</sup> also suggested the plan of causing the patient to swallow a small sponge attached to a thread. The sponge was allowed to remain in the stomach for several minutes, and then withdrawn, after which the contents were pressed out and examined for HCl. This test, however, fails in two particulars—first, the sponge is partly expressed during its withdrawal through the œsophagus, and thus loses much of its contents; secondly, it absorbs fluid from the moisture of the œsophagus and pharynx—thus, the stomach-contents cannot be examined pure.



With a view to obviating these disadvantages, Dr. Einhorn,<sup>d</sup> of New York, has devised an ingenious little instrument, which he terms a "stomach-bucket," and of which I have the pleasure of exhibiting to you this drawing. This consists of a small oval

<sup>a</sup> Ewald and Boas. *Virchow's Archiv.* CI., 325, 1886, and CIV., 271, 1888.

<sup>b</sup> *Münich. med. Wochenschrift.* XXXIV., 51. 1887.

<sup>c</sup> Edinger. *Deutsche Archiv. f. klin. med.* Bd. 29, p. 555.

<sup>d</sup> *N. Y. Med. Rec.* July 19. 1890.

vessel— $1\frac{3}{4}$  cm. in length,  $\frac{3}{4}$  cm. in breadth—made of silver; the upper portion is open, but bridged over by an arch of the same metal, to which is attached a silk thread.

Dr. Einhorn gives the following directions for the use of this apparatus:—

“The patient is asked to open his mouth widely, and the little vessel is placed on the root of the tongue (almost in the pharynx), after which the patient is to swallow *once*. The vessel reaches the stomach in a short time (one-half minute to one and a half minutes). This point can be easily found by the length of the thread from the vessel to the mouth; it equals the distance from the teeth to the cardia, which is usually 40 cm. It is advisable to make a knot on the thread, marking 40 cm. When this knot comes into the mouth, then we are sure the vessel is in the stomach. The vessel having been left in the stomach for about five minutes, is then withdrawn. During withdrawal of the apparatus, a resistance is felt at the *introtus œsophagi*. To overcome this difficulty, when the apparatus is at that narrow point the patient should either deeply expire or swallow once. By the act of swallowing, the larynx is pushed upward and forward, and thus the passage is free.

“If the stomach is not empty the vessel returns filled, and the amount is sufficient for making qualitative tests for free hydrochloric acid and the rennet ferment.”

“In people suffering from an abundant secretion from the mucous membrane it may happen that the bucket may become filled with mucus before entering the stomach. (In emptying the vessel it is always easy to distinguish real stomach-contents from plain mucus.) In case we find principally mucus in the vessel, it is necessary to make the trial again, and to cover the opening with a thin gelatinous capsule, which keeps the mucus away from the vessels on its passage to the stomach; there the capsule is dissolved, and the stomach-contents can enter unmixed into the apparatus. On its return from the stomach, the ‘bucket’ being filled, the mucus cannot to any extent enter into it.”

“If the sample from the ‘stomach-bucket’ give a positive reaction of HCl (with Congo, or Günzburg’s phloroglucin-vanillin test<sup>a</sup>) then the same is made use of at once; but should it prove negative as to the presence of HCl the obtained sample must be examined more minutely, and if it is found to be mixed with much mucus,

<sup>a</sup> Ctblt. für klin. Med. 1887. P. 737.



then it is necessary to obtain another sample with capsule covering as described above."

The best time for making an examination is just as usual—one hour after Ewald's "trial breakfast,"\* or three to four hours after a trial dinner.

It goes without saying that for a full and exact analysis of the contents of the stomach the use of the tube is indispensable, but Dr. Einhorn claims certain advantages for his apparatus, which I can fully endorse:—

1st. It is more simple and easy to use than the tube, and causes no exertion to the patient.

2nd. It is a great advantage to the general practitioner, who does not intend to make an exact analysis of the stomach-contents, to be able in this rapid manner to determine whether there exist free HCl or not.

3rd. Even in gastric ulcer there is no danger whatever from a hæmorrhage in consequence of the examination, for which reason this method may safely be employed in cases where there is a suspicion of an ulcer of the stomach, and where there may be danger in using a tube.

4th. The introduction of the bucket may elicit information regarding several other points connected with the œsophagus and stomach, *e.g.*:—

- (a.) The permeability of the œsophagus.
- (b.) In extracting the vessel, the determination whether the cardia is closed (in this case a certain resistance is felt as soon as the "bucket" touches the cardiac orifice).
- (c.) One is enabled, as soon as the bucket is in the stomach, to study to some extent the contractions of the organ by observing how far, with what force, and at what intervals the thread is pulled further in, for the thread *alone* affords too few supporting points to be moved by the contractions of the œsophagus. In this way every traction of the thread hints at further locomotion of the apparatus in the stomach.

Let me now say a few words regarding the use of electricity in the treatment of diseases of the stomach. It has long been known

\* For the relative value of the "Probefrühstück" and "Probemittagbrod," see the Berlin klin. Wochenschr. 1888. No. 32, 647.

from the experiments of Ludwig and Weber,<sup>a</sup> von Ziemssen<sup>b</sup> and Bocci,<sup>c</sup> that galvanic and faradic currents, applied directly to the stomach of animals, produce contractions of the organ, and also an increased secretion of gastric juice. But for years past currents have been applied percutaneously over the human stomach by a number of observers—notably, Neftel,<sup>d</sup> Fürstner,<sup>e</sup> Leube,<sup>f</sup> Richter,<sup>g</sup> and others—with beneficial results in dilatation resulting from chronic catarrh, in nervous dyspepsia, and other diseases; and more recently Ewald and Einhorn<sup>h</sup> demonstrated an increased motility of the stomach under the influence of percutaneous electricity, by the appearance of the salol test<sup>i</sup> in the urine about one-fourth of an hour earlier than usual; and A. Hoffmann<sup>j</sup> showed that the galvanic current, applied in the gastric region for twenty minutes, produces an abundant secretion of gastric juice.

Notwithstanding all this, it was considered very doubtful if electricity applied in this manner was able to produce to the full its beneficial effects, as it was considered questionable whether any direct peristalsis results, but rather (as held by Kussmaul,<sup>k</sup> Pepper,<sup>l</sup> and others), that the good results obtained in cases of dilatation were mainly attributable to the favourable influence of the contraction of the abdominal walls. Accordingly, Duchenne<sup>m</sup> and Kussmaul,<sup>n</sup> and later, Bardet,<sup>o</sup> Baraduc,<sup>p</sup> Stockton,<sup>q</sup> Ewald,<sup>r</sup> and Boas<sup>s</sup> have recommended direct electrification of the stomach, using various electrodes which were in fact all modifications of the stomach-tube, constructed so as to act as an insulator to the wire.

<sup>a</sup> Kussmaul. *Arch. f. Psych. und Nerv.* 1877. Volume VIII., p. 205.

<sup>b</sup> Von Ziemssen. *Klin. Vorträge.* No. 12. *Die Electricität in der Medicin.*

<sup>c</sup> Bocci. *Lo Sperimentale.* June, 1881.

<sup>d</sup> *Centralbl. f. d. med. Wissensch.* 1876. No. 21, p. 370.

<sup>e</sup> *Berl. klin. Wochenschr.* 1876. No. 11.

<sup>f</sup> *Deutsch. Arch. f. klin. Med.* 1879. Tome 23, p. 98.

<sup>g</sup> *Berl. klin. Wochenschr.* 1882. Nos. 13 and 14.

<sup>h</sup> *Verhandl. d. Vereins f. innere Med.* 1888. P. 58.

<sup>i</sup> Ewald and Seivers. *Klinik d. Verdauungskrankheiten.* II., 53.

<sup>j</sup> *Berl. klin. Wochenschr.* 1889. Nos. 12 and 13.

<sup>k</sup> *Arch. f. Psych. und Nerv.* 1877. VIII., p. 305.

<sup>l</sup> *Philad. Med. Times.* May, 1871. P. 274.

<sup>m</sup> Cited from Kussmaul.

<sup>n</sup> *Loc. cit.*

<sup>o</sup> *Bull. Gén. de Thérap.* 1884. Tome 106, p. 529.

<sup>p</sup> *Journ. de Med. Practitioner.* Dec., 1888. P. 455.

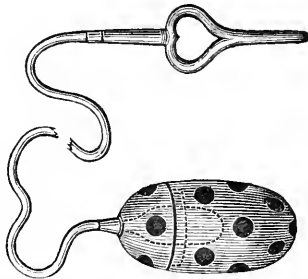
<sup>q</sup> *N. Y. Med. Rec.* Nov. 9, 1889. P. 530. And *Amer. Jour. Med. Sci.* July, 1890. P. 20.

<sup>r</sup> *Klinik d. Verdauungskrankheiten.* P. 64. *Berl.* 1889.

<sup>s</sup> *Allgemeine Diagnostik der Magenkrankheiten.* P. 239. *Leipzig.* 1890.

The evident inconvenience of this bulky arrangement, and the fact that the tube containing the electrode had to be kept in the throat during the whole time the electricity was being applied, has prevented this method of treatment from attaining any great popularity, as only persons accustomed to the frequent use of the stomach-tube could bear the procedure at all, and even to them it causes considerable discomfort.

This important mode of treatment is, however, likely to receive a fresh impetus, in consequence of the recent production by Dr. Max Einhorn<sup>a</sup> of a new electrode, by which the disadvantages alluded to have been obviated. It is constructed on the same principle as the "stomach-bucket" which has just been described, and once swallowed reaches the stomach without further artificial aid. The silk thread of the bucket is represented in the electrode by a very fine (1 mm. in diameter) rubber tube, through which a very fine, soft, conducting wire runs to the battery. The end-piece of the electrode consists of a hard rubber capsule, of the same size and shape as the "stomach-bucket," with many openings. In this capsule lies a metallic button, which is connected with the wire. The rubber capsule serves to avoid direct contact of the metal with the stomach-walls. The circuit is completed in the same way as in Bardet's electrode, by the water the stomach contains. The other (ordinary) electrode is best placed either on the back to the left of the seventh dorsal vertebra, or in front over the epigastric region, or is simply held in the hand.



The electrode is introduced and withdrawn in the same manner as the "stomach-bucket." No force is necessary for its withdrawal—one has only to make the patient swallow once or twice, and to make use of the moment when the larynx by this act ascends, and the passage becomes free to withdraw the electrode, which is now done with perfect ease.

<sup>a</sup> N. Y. Med. Rec. May 9, 1891.

Dr. Einhorn further describes a series of test experiments made upon healthy persons, with the result that, in each case, after the application of direct faradism there was a marked increase in acidity. The conclusion that the faradic currents increase the production of the gastric juice seems to be justifiable.

As regards clinical experience, the most marked results have been obtained in cases of dilatation, and also in chronic gastric catarrh; the improvement in the latter cases being demonstrable by chemical analysis. Two cases especially are to be noted of very aggravated chronic gastric catarrh in which free HCl could never be found after the test meals; the same could be easily detected after the stomach had been faradised internally for ten minutes. Dr. Einhorn also mentions two cases of pure gastralgia which derived benefit from the internal application of the galvanic current.

I cannot pretend to have offered to you in this paper anything original, or even anything particularly novel; but I was desirous of bringing before the Section, however imperfectly, a subject which, in the course of some reading and a little observation, had been of particular interest to myself.

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ART. VI.—*Some Recent Modifications in our Views of Enteric Fever and its Treatment.*<sup>a</sup> By M. A. BOYD, M.D., F.R.C.S.I., M.R.C.P.I.; Physician, Mater Misericordiæ Hospital, Dublin.

SINCE Murchison wrote his classic treatise on Enteric Fever we have added almost nothing clinically to the accurate and scientific description he gave of the disease. He covered in that description almost the entire ground in connection with the disease and its history, and in the closeness of his reasoning as to its ætiology he foreshadowed all that bacteriology has since discovered regarding it. In fact, it is only in its bacteriological aspect that any additions have been made to the subject, and it is from this side alone that any additional knowledge is likely to come which can finally determine the mode of its origin. The additional bacteriological data, however, we now possess have considerably narrowed the issues, and enabled us to regard the disease from the standpoint of being an acute infective disease which heretofore

<sup>a</sup> Read before the Section of Medicine in the Royal Academy of Medicine in Ireland, on Friday, December 18, 1891.

it was not considered, in which, like phthisis and pneumonia, a special bacillus plays the important part.

Since that bacillus was discovered by Koch and Eberth, and its peculiarities and mode of growth were studied, more especially by the latter observer, our views as to the aetiology of the disease have considerably changed, and the time has, I think, now come when, taking advantage of the experiments of various other bacteriologists, in addition, we may form more definite ideas as to its mode of propagation, to its prevalence at particular seasons, and the causation of the symptoms present in its various stages, as well as to suggest some rational means for treating it.

I shall first refer to the typhoid bacillus and its discovery. In 1880 Koch and Eberth almost simultaneously discovered in the intestines, the mesenteric glands and lymphatics, and especially in the spleen of patients dying of enteric fever, a bacillus, which, though frequently found in the intestines as the common *Bacterium termo*, assumed at particular seasons, or owing to some alteration in the normal vital resistance of the individual, an acutely infective process, infiltrating the adenoid tissue and lymphatics of the intestine, accompanied by the chain of febrile phenomena we designate typhoid or enteric fever. Owing to the difficulty of finding a suitable nutrient medium on which to grow it outside of the body, this bacillus could not be differentiated from other bacteria inhabiting the alimentary canal until Koch succeeded in isolating and growing it on dry gelatine plates; since then all pathologists are familiar with its appearance and mode of growth. So far all experiments have failed in producing the disease from these cultivations by inoculation; but bearing in mind it grows both as an aerophyte and as an anaerophyte, it may be innocuous in the former condition and infectious in the latter when in the alimentary canal, when the vital resistance of the tissues in that situation may be from some reason altered. What may produce these alterations I shall allude to presently. Gaffky, in his observations on this bacillus, has given us some valuable information as to its situation and growth. It is one of the few bacilli found to develop freely in water, and it grows abundantly in milk. He also found it in the soil through which water percolates, and it grew freely in all albuminous media. He also found it more abundant in all these media in the autumnal season more than any other—a fact of considerable importance. If, however, this bacillus is found so frequently in the food we eat, the water we drink, and in our

intestines, how, we may ask, is it that it does not infect the intestinal glands when present and produce enteric fever in every case? For we must all take it in at some time or other if it is not already present in our intestines. With this question I may link two others: why is it we do not suffer from pneumonia constantly when we always carry about with us the germs of the disease in Fränkel's diplococci; or why not frequently suffer from circumscribed or diffuse suppurations when the micrococci that produce them are frequently present in our blood or tissues?

Why we do not, recent investigations in bacteriology have made clear. Bacilli or micrococci are in themselves harmless either in the blood or tissues until the vital resistance of some tissue is lowered, from either functional alteration or injury, when they readily find a suitable soil in it on which to grow and multiply. It is by this growth and the chemical products generated during it that the mischief is produced, and the poisoning of the tissues around that are most susceptible to its action afford a further field for the growth of these micro-organisms.

Let me take, first, the experiments of a distinguished physiologist, and, secondly, the course of a fatal disease, with which, clinically, we are only lately becoming familiar, to illustrate my meaning. Professor Kocher, of Berne, in making experiments on animals by destructive injury to tissues, down even to the marrow of bones, with a hot iron, could not produce septic inflammation as long as the animal experimented on was healthy, but if he lowered the vitality of it by feeding it on putrid matters, permitting thereby septic micrococci to enter its blood, a septic inflammation was at once produced. The other disease I have alluded to in illustration—namely, septic or suppurative endocarditis—we know arises from either the staphylococcus or streptococcus when present in the blood from any accidental cause, finding a nidus in an inflamed endocardium or damaged valve, and the chemical product of its growth is then wafted in the blood current to set up mischief in other situations, where, from anatomical causes or lowered vital resistance, the blood and tissues cannot overcome its invasion. The germs of typhoid fever, like all other septic germs, are now regarded as in themselves harmless as long as the tissues with which they are in contact are healthy, else how can we explain the immunity from the disease that exists in healthy individuals who constantly either receive them through food or drink into the alimentary canal, or have them as a normal and constant resident?

This brings me to the vexed question of the ætiology of the disease. If we take it for granted that the bacillus of Eberth is, by its infiltration of the glandular tissue of the intestine, the cause of all the mischief (and, apart from the absence of the inoculation evidence, most pathologists are agreed that this is so), what are the conditions that favour or produce its acute infection of those glands?

We have, first, the evidence that this bacillus is found growing most luxuriantly, and, we must presume, consequently that it is more virulent and more capable of making a vigorous battle for its existence, in the autumn. But it must find the tissues with which it comes in contact in a weakened condition to get the upper hand in the struggle.

Are the intestines at this period of the year in a more weakly condition than at any other, and, if so, from what cause? I think we can answer that question in the affirmative.

Most of us are familiar with the gastro-intestinal troubles that are characteristic of the early autumn months, the gastro-intestinal catarrh especially; the catarrhal or autumnal diarrhœa; and the frequency of so-called bilious attacks at this season. How these catarrhs are produced we have a ready explanation in the rapid fall of temperature in the evenings, after, perhaps, a warm mid-day, when the action of the skin is suddenly checked, and no additional precautions as to clothing are adopted. All hospital physicians are familiar with the sudden onset of bronchial catarrhs at this season also, from the same cause, and the rapid filling of hospital wards with cases of asthma, emphysema, and fresh bronchopneumonia in cases the subjects of phthisis during the previous summer and spring. Now, let us see if this gastro-enteric catarrh is a usual precursor of enteric fever. Murchison, with that acute power of observation which was characteristic of him, mentions it as a most usual symptom preceding and accompanying the fever in its early stages; and he further adds that catarrhal diarrhœa was frequently present preceding the fever, and that it was often difficult to say whether the disease would remain catarrhal diarrhœa or end in enteric fever. Now, it seems to me that this catarrh, in addition to being brought about by atmospheric changes or by food, may be produced also from the absorption of the chemical products of the typhoid bacilli growing on the intestinal contents, when present in large numbers in either food or drink containing them; and that this ptomaïn or toxin was only the weapon they used—as

Professor Burdon Saunderson expresses it—in their struggle for existence to weaken the vital resistance of the tissues with which they were in contact, and make it fall an easy prey. Why, however, should the glandular tissue be the first overcome in this struggle? The reason seems to me obvious, looking at it from a pathological point of view. Adenoid tissue is endowed with a very poor vitality, and very little power of resistance or of repair, when infiltrated or choked from any cause. We see this when it is attacked by a similar bacillus, the tubercular one, whose life-history, and the readiness with which it infiltrates and destroys glandular structures, are somewhat similar to the typhoid one in many ways. The epithelial shedding and proliferation of the mucous membrane which takes place must also weaken the defences against the bacillary invasion. The bacilli find the glandular tissue in a condition of derangement from the effects of this catarrh, and it becomes the centre of their habitation.

That this invasion is sudden, and followed by rapid changes in the glands, there can be no doubt. Murchison, for example, found infiltration and swelling of the glands in the case of a patient dying on the second day of the disease, and other observers bear similar testimony.

The entire process in connection with the gland, so far as the typhoid bacillus is concerned, from the time of invasion to death or disablement of the gland, is over in fourteen days—the normal time of enteric fever from a pathological point of view. After this period, however, a new set of enemies appear on the scene in the shape of the suppurative micrococci, which, forming colonies on the injured or necrotic tissues around the glands, begin to generate their peculiar toxins, producing the hectic character of the symptoms and temperature with which we are all familiar after the first fortnight of the disease, so that we must regard enteric fever as the result of the growth in the intestines of two sets of micrococci—the so-called typhoid bacilli producing the symptoms during the first fortnight, and the suppurative micrococci producing the characteristic symptoms of its further stages. That other micrococci, as well as these latter, occasionally infect the patient from the intestinal canal, there can be no doubt; and I have at present under my care in the Mater Misericordiæ Hospital a patient with a well-marked attack of erysipelas of the face, in the fourth week of his enteric fever.

If recent bacteriological work has enabled us to grasp these facts



with regard to the disease, we may ask ourselves what practical deductions can we draw from them, so as to enable us to treat it. Looking at the disease as primarily a catarrhal one of the intestines, and secondarily as one of septic poisoning, our treatment resolves itself into suitable diet and antiseptics. We know already how all-important is the treatment of enteric fever by bland and unirritating diet, and such as will be mainly absorbed by the stomach and duodenum, leaving little to be dealt with by the lower part of the small intestine.

The medicinal treatment of typhoid by antiseptics is latterly receiving that amount of attention which our more perfect knowledge of its bacteriological origin would suggest, and we see occasionally in the medical journals glowing accounts of the success of this method of treatment in the hands of some; while others confess it has not realised their expectations. As far as I myself am concerned, I have used this method of treatment for several years in both hospital and private practice, and have every reason to be satisfied with the results.

I do not profess to believe that it will abort a case of typhoid once the characteristic fever has begun, but I do assert that it will prevent, in the majority of cases, the septicæmia—for it is nothing but septicæmia with which we have to deal after the second week of the fever is passed. The typhoid bacillus has by this time done its work, so far as the intestinal glands are concerned, and hereafter we have only saprophytic bacteria and their effects to deal with. The characteristic hectic type of temperature during the third and subsequent weeks of enteric fever, such as we have in connection with suppurating cavities in the lungs or elsewhere, shows this to be the case.

In seeking for a suitable antiseptic for this purpose, we must choose one which will fulfil the following objects:—It must first exercise its effects in the intestinal canal, and not in the stomach; its action must be thorough, not alone antisepticiising the contents of the bowel, but it must permeate the intestinal wall as well, where septic micrococci may have already established themselves, and even enter the blood. To fulfil these conditions the form of antiseptic must be, in my opinion, a gaseous one. We know how readily the intestines absorb gases, and pass them into the blood. The antiseptic I am in the habit of using is chlorine in an alkaline solution, as in an alkaline form it mingles best with the contents of the intestines, which in enteric fever exhibit a strongly alkaline

reaction. This treatment is not original, as Murchison, who expresses himself in general as dissatisfied with antiseptics, speaks favourably of chlorine, and regarded it as an admirable method of treatment. He administered it in an acid solution, which in my experience is not so satisfactory. That this method of treatment produces a fall in the temperature, and makes the type of the disease milder, there can be no doubt, and in over a fourth of the cases, when begun early, it brings the febrile process to an end about the fourteenth or sixteenth day.

Murchison, in his careful statistics, found only seven cases out of two hundred to terminate on the fourteenth day by the ordinary method of treatment, so the cessation of the fever by this method of treatment in such a large percentage must be more than a mere coincidence.

I do not claim for it that it is the best form of intestinal antiseptic, as more extended experience may enable me to procure a more beneficial one, and I hope on some future occasion to bring before the Section the results of my experiments on this subject in conjunction with our bacteriologist at the Mater Misericordiæ Hospital.

I have not, in these notes, entered the broader field of ætiological theories by trying to explain how enteric fever arises through the medium of sewers, or sewer gas; or why it is more prevalent among the wealthier classes than the poor, or whether it can arise as a miasma producing infection through the air—these are matters that I did not intend should enter into the scope of my paper, as I have been content to regard the disease from the bacillary point of view alone, and to see in it sufficient explanation of all the group of phenomena which we call typhoid or enteric fever.

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ART. VII.—*Some Cases of Enterotomy and Colotomy.*<sup>a</sup> By WILLIAM THOMSON, F.R.C.S.I.; Surgeon to the Richmond Hospital, Dublin.

THERE is no more remarkable development of modern surgery than the impetus that has been given to operative interference with the hollow viscera of the abdomen. The old terror, which even in my student days was held before us all, as to the almost certainly fatal results of interfering with the peritoneum, has

<sup>a</sup> Read before the Section of Surgery in the Royal Academy of Medicine in Ireland, Friday, December 11, 1891.

vanished; but it was a very real terror with some even then. I remember the late Mr. Robert Adams once saying to me, after he had been present at an ovariectomy, "Thank God, I never had to do that." And his gratitude was a very fair reflex of the feelings of the senior surgeons of his day. It was the part of the younger men, with the audacity that belongs to youth, to show that the danger lay largely in bad methods, and that there were roads which if followed boldly, but at the same time with care, led to safety. The success which has attended ovariectomy has been followed by the removal of diseased intestine, portions of the stomach, and of the bladder, and with an amount of success that is among the greatest wonders of modern surgery. It is true that the older writers have narrated cases of extraordinary character, but they are few and far between, and they were often the result of accident rather than of selection. But it is to our own time we must refer the deliberate operation upon the intestinal tract as a generally accepted surgical procedure. When Mr. Bryant did his first colotomy in 1859, it had been done only once in London in the preceding ten years. The first case I saw was in 1876, and the second was one in which I was the operator. When I graduated I had never seen the operation done in any hospital in Dublin. I mention these points to show that operations upon the intestine were not always as common as they are now, and that within comparatively few years they were rarely practised.

Since I read a paper on lumbar colotomy in this Section two years ago, I have opened the ileum three times, and the colon five times, for the purpose of establishing an artificial anus. The two groups differ from each other in this,—that the ileum cases were all done for acute obstruction, while the colon cases were, with one exception, done when there were no symptoms of acute obstruction.

CASE I.—A printer, aged forty; had been the subject of constipation for over a year. I was able to make out a tumour in the ascending colon, slightly movable, and somewhat doughy. In consultation the possibility of this being a faecal accumulation was accepted, and the man was treated accordingly; but no impression was made upon it. Later on he complained of irritation of the bladder, and an examination of the rectum revealed a tumour on the anterior wall in the situation of the prostate. In a few weeks the symptoms of complete obstruction suddenly supervened, and I was obliged to operate. A central incision showed the patient to be the subject of malignant disease. The omentum and

the mesentery were studded with small, dark, shot-like nodules. The tumour in the ascending colon was about the size of my fist, and was close above the cæcum. Removal of it, with such an amount of disseminated disease, was impossible; I therefore determined at once to open the ileum. The artificial anus was fixed in the abdominal wound in the ordinary way. The patient never rallied completely, and died in four hours. The tumour in the rectum was found to be of the same character as the others, which were sarcomatous.

CASE II.—The next case was that of a woman aged fifty, who had been suddenly attacked by pain followed by collapse. She had been treated for obstruction by means of belladonna and purgatives without benefit. Vomiting continued, the abdomen became distended and tympanitic, and when I saw her her condition was one of extreme peril; she was almost pulseless, and we decided to postpone operation for a short time until stimulating treatment could have some effect. As soon as possible afterwards I opened the abdomen; there was great difficulty in dealing with the distended intestine, and in endeavouring to trace the obstruction. I was able to feel a thickened, unusual mass near the sacrum, but I could not bring it up. The patient was almost moribund, and I had to hasten my work; I accordingly opened the ileum as before, and fixed the artificial anus in the wound. She had great relief from pain, rallied considerably, and there was a copious discharge from the bowel, and I hoped that all would go well; but she began to sink early in the following morning, and died in about twenty-six hours after the operation. At the *post-mortem* examination the obstruction was found. There was a mass of caseating glands over the lower lumbar vertebræ; some of these had quite broken down. The ileum, near its termination, was involved in this mass by old adhesions, and its lumen was reduced to the size of a goose-quill.

CASE III.—The next case was that of a young lady, aged twenty-one, whom I saw in consultation with Dr. G. H. Kidd and Dr. F. W. Kidd. She had been complaining for about a year, and had been treated for indigestion. When Dr. F. W. Kidd saw her she had considerable pain in the right iliac region, she was much constipated, had occasional vomiting, and had an elevated temperature. He discovered a tumour in the site to which she referred the pain. When I saw her the symptoms of obstruction had become urgent. The abdomen was distended, and the tumour could be felt somewhat above the cæcum. There was great tenderness everywhere, and her pain could be kept in subjection only by the use of morphia hypodermically. We agreed that an operation could not longer be delayed, and the next day I opened the abdomen—Messrs. Thornley Stoker and Corley, and Dr. F. W. Kidd assisting. The small intestines were greatly distended, and deeply congested. I at once passed

my hand into the cavity, and examined the tumour; it involved the ascending colon, was firm and fixed, so that it was impossible to move it towards the surface for further examination. Believing it to be malignant, we agreed that there was no course left but to open the ileum. This was accordingly done, and the bowel was fixed in the middle line. The patient rallied well, and was better next day. Her symptoms improved, but the discharge from the bowels never became solid. There was a constant escape of feculent fluid, which was so acrid that the skin of the abdomen became excoriated over a large extent, in spite of all our efforts to protect it. It would be tiresome to give all the details of this most painful case. Later on she was able to move to the country. In some months later the symptoms again became urgent, the tumour grew in size, ascites set in, and she finally died in January, 1890, six months after the operation.

My next group of cases consists of five, in which I performed anterior colotomy.

CASE IV.—A labourer, about fifty-five years of age, had complained of diarrhœa for some months, and had been treated by his doctor with various astringents. The number of motions daily were as many as twenty. He had pain, passed blood, and was emaciated. No examination of the bowel had ever been made. On passing my finger into the rectum I found a large ulcerated epithelioma about two inches from the orifice. It was quite fixed, all the surrounding parts were infiltrated, and the question of removing the mass was put aside. I accordingly determined to perform an anterior colotomy. A two-inch incision was made in the linea semilunaris, an inch above a line passing from the umbilicus to the anterior iliac spine. There was no difficulty in recognising the bowel, which was secured in the usual way, and opened at once. The patient did well, and lived for nine months, when he died from extension of the disease.

CASE V.—In July, 1889, a gentleman, aged forty-eight, consulted me for chronic diarrhœa. He stated that he had been suffering since the preceding January—that he had been treated for catarrh of the bowels and deranged liver. He had lost about one stone in weight; the motions were about twenty at night and six in the daytime. I asked if his rectum had ever been examined, and he said not. On passing my finger into the rectum I could just reach the lower margin of a tumour involving the whole wall. I could not detect any ulceration, and he said he had no pain, and he had not seen any blood. Dr. Ball met me in consultation at his house next day, and after a full examination we agreed that colotomy ought to be done. This I did, with the assistance of Dr. Thornley Stoker, in August. I determined to open the colon anteriorly, and at a much

higher level than is usually selected, so as to get as far from the disease as possible. The point was somewhat above a line passing transversely through the umbilicus. I selected, as before, the linea semilunaris. Here I met with an unexpected difficulty. I found the colon easily enough, but it was for some time impossible to bring it out of the wound. Its ligament was extremely short, and when at last I was able to bring out a portion of the bowel and fasten it to the skin, there was so much tension that I feared that the stitches would give way prematurely. The bowel was opened at once, but there was no discharge of fæces until next day. The patient was up in about sixteen days, and was able to travel to London on business on the thirtieth day after the operation. His subsequent history may be told in a few words. For nearly two years he was able to discharge very onerous public duties; the bowel acted perfectly about once a day. In July of this year he had ischio-rectal abscess, and there was evidence of extension of the tumour downwards. The liver became involved by secondary deposit; ascites followed, and the patient died just two years from the date of the operation.

CASE VI.—An old soldier, aged sixty-three. He had been suffering from intermittent attacks of constipation for two years, and had been treated from time to time in the Whitworth Hospital. There was no trace of disease in the rectum. On his last visit (July, 1890) for treatment he suddenly became very ill. The intestines were much distended, and there was frequent vomiting. He was removed to the surgical hospital, where I saw him. He was much collapsed. An examination of the abdomen showed great distension of the transverse colon, as far as the splenic flexure. I determined upon an exploration, and opened the abdomen high up on the left side, in the linea semilunaris. The small intestines gave great trouble, and it took some time to find the colon, which was at last recognised by the fingers grasping a small scybalous mass. Passing up to the splenic flexure, I found a mass of fæces there. There was obviously some narrowing at this part, but I was able to press the mass onwards. The question of opening the transverse colon was discussed, but the man was almost pulseless, and we felt that his life would be seriously imperilled by making a second incision. As the faecal lodgment could be moved onwards I believed that the way could be kept clear subsequently by the use of medicines and enemata through the opening in the colon. I then fixed the gut, and opened it. There was a free escape of contents. Next day the distension had disappeared, and the vomiting had ceased. The patient made an uninterrupted recovery, and the bowels acted with fair regularity. He died six months later of asthenia, but was not, I believe, troubled by any obstruction.

CASE VII.—A man, aged forty-two, sent to me by Dr. J. M. Prior Kennedy, of Tullamore, in June, 1890. For nine months he had suffered

from alternate constipation and diarrhoea. At times he suffered much pain and passed blood. The cause of his troubles was recognised, and he was sent to Dublin. He stated that he had lost more than a stone in weight. The diarrhoea was very distressing, as he required to go to the closet sometimes 30 times in the 24 hours. An examination of the rectum revealed a hard, rugged, ulcerated stricture which would not allow the finger to pass through. There was extensive infiltration, and the diseased structures were quite fixed to the deeper parts. There was no course open but the performance of colotomy. For the first time I did it in two stages. The loop of bowel was drawn out and stitched through the serous and muscular coats to the skin. The dressing consisted of iodoform ointment applied under protective, so as to avoid the trouble of adhesion of dressings to the wound. On the fifth day I opened the bowel and clipped away the lips—a perfectly painless process. The patient left bed on the eighth day. The diarrhoea was quite stopped, the bowel discharged itself regularly, and the patient was able to leave hospital in three weeks. I have since heard that he suffered once from prolapse, which was reduced by Dr. Moorhead, of Tullamore, with some difficulty.

CASE VIII.—A woman, aged fifty, admitted August, 1890. Two years ago she had what appears to have been an ischio-rectal abscess, for which she was treated in a hospital. She said she received injections, and that the fluid returned through the vagina. Her condition was a very miserable one. The whole of the buttocks were riddled with openings. The rectum was occupied by a malignant mass, and the finger could be passed through the vagina into the bowel. She was disgusted with her own condition. I explained to her what could be done, but that her disease could not be cured: and as she was most anxious for some relief I resolved to open the colon in front. This time I went a step further. The gut was found at once, and drawn out. I then passed a thick needle through the mesentery, and allowed the ends of the instrument to rest upon the abdominal wall, transversely to the wound. Three or four light sutures fixing the bowel in position in the wound completed the operation, which lasted little more than a quarter of an hour. The bowel was opened three days later, and the patient was soon discharged.

There are a few points which these cases bring into prominence, to which I will allude as briefly as possible. It will be noted that, in the first group of cases of operation upon the ileum, I lost two out of three; and that in the second group in which the colon was opened all survived. There does not appear to be any special reason why the opening of the ileum should be more fatal than

the opening of the colon, if the conditions are the same. Yet enterotomy, as it is called as distinguished from colotomy, is undoubtedly a very fatal proceeding. Treves collects 61 cases of non-malignant obstruction, of which 41 died within 10 days, and 24 within 48 hours. In 48 cases of enterotomy in malignant disease, 42 died—28 within 48 hours, and the rest within 10 days. The reason of this great mortality lies in this—that enterotomy is hardly ever done as a deliberate operation, but as a last chance in a case of obstruction in which that obstruction cannot otherwise be relieved. Then the case is usually an acute one; the intestines have become distended and deeply congested, and there is vomiting—in other words, we add to an already established serious shock the shock of an operation, which involves a search for the obstruction, and finally the opening of the bowel. In two of my cases the patients were already in a state of collapse when I operated. The same condition almost of necessity exists in all such cases, and under this accumulation of adverse circumstances, we have rather to congratulate ourselves when we save any.

Now, on the other hand, colotomy is usually done at a selected time. There is not any serious obstruction, and all the conditions of time and the preparation of the patient are favourable.

All these cases of colotomy were anterior. On this question of anterior or lumbar colotomy very much has been written, and probably the result is that there will always remain upholders of each as the preferable method. My own experience is, that the anterior operation is in most cases more easy to perform, and that the position of the opening is more convenient for the patient than in the lumbar region. But it does not always happen, as some seem to think, that we make an incision through the peritoneum, and find the colon quietly waiting to be caught. Very often it is a bit of small intestine that presents, and we must search, and search diligently, before we find what we want. Mr. Allingham and Mr. Cripps, who have done the operation frequently, state that the colon is to be found at once only in one-half or one-third of the cases. In this respect the lumbar operation has the advantage, because the bowel is in more fixed relation to the primary incision. Then, I agree with Mr. Bryant and Dr. Ball, that in a case of much distension the lumbar operation is better, because we have not to dread the extrusion of small intestine should we fail to hit upon the colon at once.

But the chief claim of the anterior operation must be based on



the fact that it is an abdominal section, which gives us at once great possibilities. Sometimes it is not easy to localise a cancerous growth—such a thing has happened before now of opening the colon in the lumbar region on the wrong side of the obstruction. The anterior opening gives us all facilities in our search; we can enlarge it, we can examine the whole course of the colon—we may even excise a stricture. We may divide the gut completely, invert the edges of the lower part, and thus shut off the rectum permanently from any chances of the irritation of the bowel contents. Now only one of these advantages belongs to the lumbar operation, and for these reasons I believe that the anterior will gradually become the far more usual one.

In my last two cases I adopted the plan of dividing the procedure into two stages, and where there is time this is a great advantage. The parts are completely adherent before the bowel is opened, and there is then no fear of the passage of fæces into the abdomen. In the last case I used the pin for transfixion of the mesentery, thus, as it were, hanging the intestine in a loop over the steel bridge which passed from side to side of the wound. If the ligament is long enough to allow the bowel to be drawn out freely, this plan is most simple and satisfactory. The lips of the small wound lie close about the gut, adhesions take place in a very few hours, and there is really very little after-trouble. Everything is secure in a few days, and all that remains to be done is to open the bowel and pare away the edges—a proceeding which is curiously quite painless. But it has the further advantage, that the pin so shapes the bowel as the adhesions become firm, that a very good “spur” is produced, and there is less likelihood of fæcal matter travelling down to the rectum. I may say, however, that except in one case there was no trouble from this, and that in the others the colon discharged all its contents through the artificial opening.

With regard to the position of the incision, I have made it at some point above a line passing from the umbilicus to the anterior superior spine of the ilium, and always in the *linea semilunaris*, as recommended by Dr. Ball, because the parts are thin, there is little or no hæmorrhage, and the rectus muscle is not interfered with. In the last case no vessel was ligatured.

As to the length of the incision, the smaller it is the better. I begin with two inches, and extend the opening if necessary. If the abdominal wall be fat the wound must be made larger, to

allow of manipulation, unless the colon happens to be at once exposed; but in the majority of the cases the wound was of small extent, and I certainly do not agree in the advice to make the wound four inches in length at the outset.

On the question as to when we ought to do colotomy for cancer some difference of opinion exists. Ought we to operate at once when the disease is discovered, although the symptoms may not be urgent, or must we wait until we are forced to do so? Malignant disease of the rectum is very insidious, and has usually been progressing slowly before the surgeon is consulted; but the facts that the necessary examination is made, and that the disease is discovered, show that there are already special symptoms present to indicate it—constipation, diarrhœa, wasting, pain, or bloody stools. The growth has reached a stage in its development when it manifests its presence, and has passed out of the period of slow and undemonstrative progress. I have myself no doubt that if any of the symptoms mentioned has become marked, and that the disease is recognised—always assuming that it cannot be directly removed—colotomy ought to be performed without much delay. It is reasonable to suppose that in a disease such as this the passage of fæces over it does not act as an emollient, and that the frequent action of the sphincters does not tend to soothe it.

One of the most frequent causes of epithelioma is continued irritation. We recognise that fact in all our practice, and we try to remove it. Rest is an important therapeutic agent elsewhere; why should it fail to be beneficial in the rectum? Therefore, I think that those who would wish to postpone the day of operation, perhaps deterred by the risk, are hardly giving effect to the principle which underlies their practice on other regions. At the present moment the anterior operation shows a mortality of 53 per cent., and the lumbar of 31 per cent.—both sufficiently high to leave much room for improvement. But I think that if we knew all particulars of the cases we should find many in which operation comes in as a last resource—when there was the shock of acute obstruction already present, as in my own enterotomies, and when everything favoured failure rather than success. Early operation can be done under the best circumstances. The advance of the disease is no longer helped by direct and increasing irritation, the comfort of the patient, as compared with his frequently troublesome diarrhœa or temporary obstruction, is secured as far as it is possible, and life is prolonged. For these reasons I believe we shall do best if we decide for action and not inaction.

**WE** also manufacture a full line of the larger pills, all of which are guaranteed to be of the best material and true to formula.

If it seemed to us proper to do so we could furnish scores of testimonials from good men who have been using our goods for the last three years.

Remember **UPJOHN'S** are the only pills made that can be crushed to a powder under the thumb.

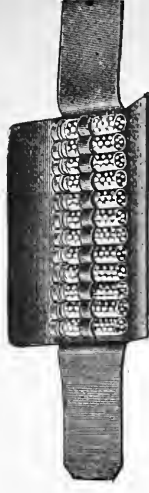
## **CASE No. 2.**



We also offer the above case, with the small vials filled with granules (your own selection from the list), the larger bottles being empty.

**Price 12/6. Postage Prepaid.**

## **Special Offer to Physicians.**



On receipt of 10/6 we will send, post-paid, the above represented

**Elegant, Flexible Leather, 12-Vial**  
(Size  $7\frac{1}{2} \times 3 \times \frac{5}{8}$ )

## **POCKET CASE,**

**FILLED WITH GRANULES.**

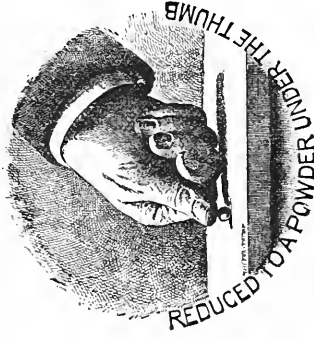
The bottles (holding from 150 to 175 granules or pills, in proportion to size) being filled from the selection of pills and granules given in this circular. See other side.

These goods are all made by our new process, without compression or excipient, leaving them permanently in a dry and powdery condition not found in pills of other make. They are perfectly coated with a freely soluble coating and of superior finish, are accurate, made from the best material, and thoroughly reliable. These cases are intended to assist in introducing our pills and granules, and we guarantee that they will be satisfactory.

## **UPJOHN'S**

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Prepared without excipient or pressure.

EMPLOYING NEW PROCESSES WHICH  
YIELD PRODUCTS GREATLY  
SUPERIOR  
AND PERMANENTLY SOLUBLE.

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# A FEW WORDS REGARDING GRANULES.

Our experience teaches us that there are many in the profession who have an erroneous conception of the word *granule*. It seems to convey to their minds a notion of the infinitesimal, and they are ready to pass this list by as being too small for their notice. Nothing could be further from the truth.

The word granule in itself has no reference to the size of the dose, but simply to the size of the pill, the pills of smaller bulk being called granules. While many of them would be called small doses there are many others which approach the maximum dose of the drug, so that in administering them, the novel but scarcely scientific instruction given by another manufacturer cannot be followed, nor do we deem it necessary to give instructions regarding the dose of our goods, leaving it rather to the judgment of the prescriber. The essential features of a properly prepared granule are, First; The selection of the tribrant, which should be a freely soluble material. Second; The method of manufacture should, and in our case *does*, secure a permanently soluble granule, giving uniform results. Of the ordinary granule, made by the pill mass process, this cannot always be truthfully said, as a small pill will readily become hard from evaporation of the moisture of the excipient.

In this case their ready solubility depends largely upon the presence of moisture. In our *pills* and *granules* we claim a more soluble condition because of the total absence of moisture, they being made without excipient and in a dry and porous condition, readily permeable by the digestive fluids, greatly favoring solution.

It is frequently desirable, in giving these remedies to children, to give them in a liquid form. Our granules may readily be crushed and dissolved, insuring the perfect division of dose.

As regards the solubility of the coating on our granules, it will ordinarily completely dissolve in the mouth in thirty seconds.

Our facilities for manufacturing granules are most complete, enabling us to produce them superior in quality and at prices that must add prominence to this most admirable method of administering remedies.

We have reduced the price of all goods included in this Granule List to a uniform rate of—

|                   |      |   |   |     |
|-------------------|------|---|---|-----|
| Per Bottle of 100 | -    | - | - | 1/- |
| "                 | 500  | - | - | 2/9 |
| "                 | 1000 | - | - | 4/6 |

Those marked with a star (\*) are taken from our *Pill List*, and are not subject to the above prices.

When requested, the granules will be sent by mail in *ease* bottles, thus enabling the physician to replace broken bottles.

Check off 12 kinds desired and return this list with order.

## — LIST —

|                                  |                              |
|----------------------------------|------------------------------|
| Aconite Root, 1-20 gr.           | Jalapin, 1-16 gr.            |
| Aconite Root, 1-10 gr.           | Leptandrin, 1-16 gr.         |
| Albin, 1-10 gr.                  | Mercery with Chalk, 1-10 gr. |
| Albin, 1-5 gr.                   | Mercery Bismuthide, 1-40 gr. |
| Albin, Stryc. & Bellad. 1st form | Mercery Protiodide, 1-8 gr.  |
| Anti-Chill, 1-4 gr.              | Morphine Sulph., 1-100 gr.   |
| Anti-Constitution, 1-4 gr.       | Morphine Sulph., 1-50 gr.    |
| Anti-Constitution, 1-2 gr.       | Morphine Sulph., 1-16 gr.    |
| Ammonium Chloride, 1-10 gr.      | Morphine and Tartar Emetic   |
| Ammonium Chloride, 1-4 gr.       | aa 1-50 gr.                  |
| Anodyne, 1-4 gr.                 | Opium and Lead Acetate,      |
| Arsenous Acid, 1-60 gr.          | aa 1-12 gr.                  |
| Arsenous Acid, 1-30 gr.          | Podophyllin, 1-16 gr.        |
| Belladonna Leaves, 1-4 gr.       | Podophyllin, 1-8 gr.         |
| Belladonna Leaves, 1-4 gr.       | Podophyllin, 1-4 gr.         |
| Calomel, 1-20 gr.                | Potassium Bromide, 1-4 gr.   |
| Calomel, 1-16 gr.                | Potassium Nitrate, 1-4 gr.   |
| Calomel, 1-8 gr.                 | Potassium Nitrate, 1-2 gr.   |
| Calomel, 1-4 gr.                 | Quinine Sulphate, 1-10 gr.   |
| Camphor and Opium, 1-4 gr.       | Quinine Sulphate, 1-4 gr.    |
| Camphor, 1-6 gr.                 | Quinine Sulphate, 1-2 gr.    |
| Camphor, 1-12 gr.                | Santonin and Calomel, aa     |
| Cathartic, 1-4 gr.               | 1-10 gr.                     |
| Cathartic Comp. Imp, 1-4 gr.     | Strychnine, 1-200 gr.        |
| Cathartic Comp. U.S.P., 1-4 gr.  | Strychnine, 1-100 gr.        |
| Cathartic, 1-2 gr.               | Strychnine, 1-60 gr.         |
| Cathartic, 1-2 gr.               | Strychnine, 1-40 gr.         |
| Corrosive Sublimite, 1-60 gr.    | Strychnine Sulph., 1-100 gr. |
| Corrosive Sublimite, 1-50 gr.    | Strychnine Sulph., 1-50 gr.  |
| Corrosive Sublimite, 1-40 gr.    | Tartar Emetic, 1-50 gr.      |
| Corrosive Sublimite, 1-30 gr.    | Tartar Emetic, 1-16 gr.      |
| Digitalis Leaves, 1-20 gr.       | Cathartic Vegetable, 1-4 gr. |
| Digitalis Leaves, 1-10 gr.       | Albin, Strych. and Belladon, |
| Dover's Powder, 1-4 gr.          | 1-2 gr.                      |
| Gelsemium Root, 1-50 gr.         | Calcium Sulphide, 1-10 gr.   |
| Gelsemium Root, 1-10 gr.         | Calcium Sulphide, 1-4 gr.    |
| Herbane Extract, 1-8 gr.         | Blue Mass, 1 gr.             |
| Ipecac, 1-50 gr.                 | Blue Mass, 1-2 gr.           |
| Ipecac, 1-4 gr.                  | Manganese Binox, 1-2 gr.     |

## PART II.

### REVIEWS AND BIBLIOGRAPHICAL NOTICES.

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*Diphtheria : its Natural History and Prevention.* Being the Milroy Lectures delivered before the Royal College of Physicians of London, 1891. By R. THORNE THORNE, M.B. Lond., F.R.C.P., F.R.S.; Assistant Medical Officer to her Majesty's Local Government Board, &c. London: Macmillan & Co. 1891. Pp. 266.

It is with much pleasure that we welcome this edition of Dr. Thorne's valuable Milroy Lectures. The work is well worthy of its author's reputation, high though it be already, and the subject is one of the most important that could be chosen. Diphtheria, as Dr. Thorne shows, is steadily, if not rapidly, extending its ravages among us, and, as yet, we seem unable to cope with it successfully. Sanitary works, cleanliness, and other hygienic measures, have considerably diminished the mortality from the so-called "zymotic" diseases, whereas none of our modern improvements have checked the spread of diphtheria. Under these circumstances, although it may not yet be possible to clear up all the mysteries connected with this disease, the first step towards improvement is to ascertain clearly the present state of our knowledge, and on this subject Dr. Thorne's lectures will be found to be the standard authority.

Dr. Thorne calls attention to the change in the distribution of diphtheria which is taking place. Formerly the disease used to be far more rife in sparsely-peopled districts than in towns and crowded localities. For some time past, however, a specially-marked increase of its incidence is in progress in large cities and towns. The disease is becoming, in fact, one more and more affecting urban populations.

With regard to the influence of soil, site, and locality on diphtheria, we read—"Soil, and especially *surface soil*, when considered in connection with relative altitude, slope, aspect, and prevailing rainfall, has, I believe, concern in the maintenance and diffusion

of diphtheria, and has very possibly some relation with its beginnings. Speaking generally, I think that the experience of careful investigations extending over a number of years is to the effect that when a surface soil is, by reason of its physical condition and topographical relations, such as to facilitate the retention of moisture and of organic refuse, and where a site of this character is in addition exposed to the influence of cold wet winds, there you have conditions which do tend to the fostering and fatality of diphtheria, and which also go to determine the specific quality of local sore-throat."

There are several tables illustrating the importance of age and season; the greatest number of cases, both actually and relatively, both fatal and non-fatal, occurring between the ages of three and twelve years, and the disease being most prevalent during October and November, then subsiding slowly, and being least frequently met with from May to July. All this statistical material is worked up with the greatest care, and will repay study.

In the second lecture Dr. Thorne calls attention to the great difficulty which is met with in attempting accurately to define the disease "diphtheria." Before and at the commencement of most epidemics of this disease many cases of ill-defined throat-disease are met with, and many such occur also during and after the regular epidemic. "Are affections of this ill-defined and apparently trivial kind capable of passing, by a process of development, from an innocent to a specific form of throat-disease? or is it that the local mischief they occasion provides a soil favourable to the reception and multiplication of the contagium of diphtheria?" Dr. Thorne seems to hold both of these views. He believes that there may be a progressive increase in virulence—"a progressive development of the property of infectiveness"—until the epidemic culminates in true diphtheria; and also that there is such an important relationship between diphtheria and a morbid condition of the mucous membrane of the fauces as to intimate some doubt whether the contagium of diphtheria ever finds in a throat, the mucous surface of which remains unabraded and unaltered by reason of local disease or otherwise, the soil necessary either to its progressive maturation or to the production of those specific changes which follow on its reception and multiplication. We do not see any reason why both of these views should not be true. On the one hand we know by experimental research that the same micro-organism can vary enormously in virulence, and that its

infectiveness can be artificially increased or diminished—for example, the same organism which often produces boils or simple subcutaneous abscesses can produce affections of every degree of gravity, until, in its highest virulence, it produces, when introduced into a living body, the most rapidly fatal blood-poisoning.<sup>a</sup> On the other, many instances are known in which one organism, so to speak, opens the door by which a second organism obtains entrance into the tissues and organs.

In connection with the last-mentioned subject is the question of the identity or otherwise of scarlatina and diphtheria. The opinions and observations of several authorities—Bond, Parsons, Ballard, and others—are quoted. Dr. Thorne thus sums up:—

“One thing at once strikes the reader, and that is the marked sequence of the events narrated. It is the scarlatina that almost always takes the precedence of the diphtheria. The few instances in which the reverse takes place may easily be accounted for by the well-known circumstance that two different infectious fevers may run their course synchronously in the same person, the characteristic features of both undergoing some modifications. And I would submit that just as is the case with regard to the non-specific forms of sore throat to which I have referred, so also in the case of scarlet fever does the morbid condition of the fauces supply the soil favourable to the reception of the diphtheria contagium, the scarlatinal throat thus acting as a predisposing cause to diphtheria.”

With regard to the relation between faulty sanitary circumstances and occurrences of diphtheria, Dr. Thorne's views are important, and are at variance with those generally held. He says:—“I would at once say that no trustworthy evidence is forthcoming to show that polluted water supplies have ever caused diphtheria; whereas, on the other hand, there is abundance of negative evidence in the opposite direction.” With regard to sewage-polluted air, he regards it as operating in much the same way as the scarlatina poison—viz., by causing non-specific sore-throat, or in some other way preparing the human system for the reception of the specific infection of diphtheria.

The third lecture chiefly treats of the relation of diphtheria to the gathering together of children in schools. Among these children diphtheria seems to prevail more than among any other class, and that for several reasons. These children are at the most susceptible period of life; they are closely arranged side by side; ventilation is often imperfect; faulty sanitary surroundings

<sup>a</sup> Levy. *Archiv f. Exper. Pathol. u. Pharmacol.* 1891.

often cause non-specific sore-throats; children, especially girls, kiss one another, and are apt to transfer sweets from mouth to mouth. Dr. Thorne suggests that the recent increase of diphtheria may have a connection with the increase in the number of children who attend school regularly.

The practices of kissing patients suffering from an infectious disease and of carrying them in the arms are alluded to. Many cases of diphtheria have been caused in this way. "In one hospital there is a rigid rule that no diphtheria patient shall be lifted or carried about, and in that institution no nurse has for a long series of years contracted the disease. In another, regulations of like stringency are not observed, and nurses tending the sick not infrequently endeavour to alleviate the distress of their little patients by fondling them and carrying them about, and in this institution diphtheria among nurses has all but amounted to an epidemic prevalence."

In the fourth lecture a careful account is given of several epidemics in which it was ascertained that milk was the vehicle by which the virus was conveyed. Dr. Thorne comes to the conclusion that the milk derived its infectiveness directly from the cows; that milk derived from cows suffering from an apparently trifling disease, a condition called "chapped nipples," may produce diphtheria in human beings and other susceptible animals—*e.g.*, cats. A long account is given of Dr. Klein's researches on this point.

In the last lecture some useful hints are given on the prevention of the disease—*e.g.*, isolation, the closing of schools, the systematic examination of the throats of the children, disinfection, boiling milk before using it, &c. The last point—boiling milk—Dr. Thorne lays much stress on. There are three appendices containing Local Government Board directions as to closing infected schools, and on the general methods to be adopted in places attacked or threatened by an epidemic.

The whole book is very well written, and extremely interesting, and contains the best account we have as yet obtained of the natural history of diphtheria. There is only one matter in which we could wish Dr. Thorne had seen his way to compile his book differently. It is written too much from the standpoint of the Medical Officer of the Local Government Board. Local Government Board Reports are the source of most of the quotations, and Government inspectors are the authorities most largely



quoted. We regret this narrow standpoint. If the author could have taken a wider view of the disease, if he had alluded more fully to the foreign experimental work which has been done in connection with this subject, if he could have paid rather more attention to the rest of the world outside England and Wales, we believe this book would have been even more valuable than it is.

### RECENT WORKS ON TREATMENT.

1. *La Pratique journalière des Hôpitaux de Paris.* Par le PROFESSEUR PAUL LE FORT. Paris: J. B. Baillière et fils. 1891. Pp. 356.
2. *The Treatment of Typhoid Fever, especially by "Antiseptic" Remedies.* By J. BURNEY YEO, M.D., F.R.C.P.; Professor of Clinical Therapeutics in King's College, London, and Physician to the Hospital. London: Cassell & Co. 1891. Pp. 70.
3. *Prescribing and Treatment in the Diseases of Infants and Children.* By PHILIP E. MUSKETT, late Surgeon to the Sydney Hospital; formerly Senior Resident Medical Officer, Sydney Hospital. Edinburgh and London: Young J. Pentland. 1891. Pp. 293.
4. *Prescriber's Companion.* By THOMAS SAVILL, M.D. Lond., M.R.C.P.; Medical Superintendent of the Paddington Infirmary. Second Edition, revised by the author, assisted by T. E. HILLIER, M.B., M.A., Cantab. 1891. London: John Bale & Sons. Pp. 48.

1. PROFESSOR LE FORT has earned a debt of gratitude at the hands of all practical physicians by focussing in his little work the views on treatment entertained by the most brilliant living representatives of the French school of medicine and surgery.

His work, described on the title-page as an "aide-mémoire" and a formulary of applied therapeutics, embraces 518 opinions on the most novel and varied cases by no fewer than 135 practitioners. Among them we find such names as Ch. Bouchard, Charcot, Debove, Dieulafoy, Dujardin-Beaumetz, Alf. Fournier, Grancher, Félix Guyon, Hallopeau, Hayem, Jaccoud, Landouzy, Lannelongue, Ledentu, Peter, Pinard, Potain, Germain Sée, Paul Segond, Tarnier, Terrier, Tillaux, Verneuil, &c.—truly a goodly list.

The plan of the book is this—a disease is named in alphabetical

order. Under each such entry authorities and their methods of treatment are then given—a uniform classification being adopted to facilitate reference, under the headings of local treatment, general treatment, regimen, and prophylaxis. Examples of the entries are: Antisepsis, dressing of wounds, diseases of the nervous system, the digestive system, the heart and circulation, the chest, fevers, and so on. We have repeatedly referred to this book since its publication and never without profit and satisfaction.

2. Dr. J. Burney Yeo's *brochure* is a valuable contribution to the literature of the treatment of enteric fever. Its object is to point out the importance of securing general and local antisepsis in this fever—more especially the latter—that is, intestinal antisepsis.

It may, perhaps, be necessary to explain that, in the words of Dr. Yeo, "the idea of an *antiseptic* treatment of certain forms of disease has been greatly misunderstood or intentionally misrepresented by those who for some inscrutable reason dislike it; and those of us who have been bold enough to entertain this idea have been credited with the crude intention of attempting to slay these parasitic morbid agents 'in a direct and simple manner,' and we have been gravely told that our so-called antiseptic methods are so murderous that our patients and not the microbes fall victims to them." Dr. Yeo shows that every analogy in nature points to the possibility of effectually modifying the life-history and activities of all living things by even slight modifications of their environment. The real aim of the antiseptic treatment of the infective diseases is to modify or counteract the injurious activities of the living parasitic agents of these diseases. Antiseptic methods, too, may act either by preventing the formation of the poisonous animal alkaloids, or ptomaines, to which pathogenic microbes seem or are believed to give rise; or by destroying these ptomaines when formed; or, lastly, by promoting their discharge from the body.

After giving a very full account of the various means employed to secure intestinal antisepsis, Dr. Yeo proceeds to speak highly of the value of free chlorine in enteric fever—a remedy recommended long since by Sir Thomas Watson and more recently by Murchison.

The liquor chlori of the Pharmacopœia may be prescribed in 20 minim doses with the mineral acids, or we may prepare a fresh solution of chlorine gas as recommended by Dr. Yeo.

"Into a twelve-ounce bottle put thirty grains of powdered potassic chlorate, and pour on it 40 minims of strong hydrochloric acid. Chlorine gas is at once rapidly liberated. Fit a cork into the mouth of the bottle, and keep it closed until it has become filled with the greenish yellow gas. Then pour water into the bottle, little by little, closing the bottle, and well shaking at each addition until the bottle is filled." . . . "To twelve ounces of this solution for an adult, I add twenty-four or thirty-six grains of quinine, and an ounce of syrup of orange peel, and I give an ounce every two, three, or four hours, according to the severity of the case."

Dr. Yeo says that this is pleasanter to take than the official liquor chlori. The tongue cleans quickly, and the fœtor of the evacuations subsides. Dr. Yeo thinks that we obtain not only an intestinal but also a general antiseptis by this treatment.

We should not be doing justice to Dr. Yeo did we lead our readers to suppose that his "lecture," for such it was in its original form, is intended merely to sound the praises of the chlorine treatment of enteric fever. As a matter of fact, in it will be found a very complete account of the antiseptic treatment in general, including diet, management of the sick-room, and kindred topics.

3. Mr. Muskett's book hails from the Antipodes, but was printed and published in Edinburgh. Two quotations face the title-page and give the key to the *raison d'être* of the work. They are from Dr. Charles West and Sir William Jenner respectively, and run thus—"Children will form at least a third of all your patients," and "When you see a sick child, don't always think of grey powders."

Opening with a list of works referred to in the text, the book is divided into three parts. The first gives the drugs in alphabetical order, with the dosage and therapeutics of each in the diseases of infants and children. A vast number of elegant formulæ will be found in this part. The second part is devoted to the treatment of disease in infants and children—the different diseases (both medical and surgical) being now entered in alphabetical order. This division of the book is by far the largest and occupies nearly 200 pages. The entries are really very full and on the whole satisfactory. Under the heading "Scrofula," we read of the "*alphabetical quadrilateral of health*"—namely, bathing, clothing, diet, and exercise. In this same article the author quotes with approval Dr. Angel Money's fanciful description of

the soles of the feet—"those nervously sensitive external kidneys." A short third part includes a number of useful dietetic receipts, or, as Mr. Muskett calls them, "recipes."

The whole is wound up by a very copious index, in which, however, both drugs and diseases are mixed up in a somewhat incongruous and inconvenient way: for example, "chicken broth" is immediately followed by "chicken pox." May we suggest to the author to have two separate indexes in his second edition, to the early appearance of which we look forward with confidence.

4. Dr. Savill's booklet contains, in the first instance, a large number of selected prescriptions which he has found most useful in his private, hospital, and infirmary practice, as well as a list of the doses and strengths of the more powerful official and non-official drugs, in the most condensed form which was possible.

The second part contains tables of weights and measures, hints on ventilation and warming, disinfection, baths, prevention of bedsores, massage, electricity, infant feeding, and miscellaneous therapeutical information—the whole forming a wonderful example of literary condensation.

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*On the Simulation of Hysteria by Organic Disease of the Nervous System.* By THOMAS BUZZARD, M.D., Lond.; F.R.C.P.; Fellow of King's College, London; Physician to the National Hospital for the Paralysed and Epileptic. London: J. & A. Churchill. 1891. Pp. 113.

THERE is probably no purely medical question which it is more difficult to decide than whether a case of nervous disease is in its nature hysterical (functional) or organic; and there is none in which the correctness of the diagnosis is of more importance both for prognosis and for treatment. Dr. Buzzard's little book is an attempt to aid the practitioner in coming to a right conclusion. Its object is to draw attention to the frequency with which symptoms, liable to be looked on as hysterical, are found to be really due to structural changes in the nervous system. The book is entirely clinical in character; a considerable number of cases are narrated, including, in the majority of instances, their after-history. The clear, accurate, and interesting narration of these cases adds much to the value of the book.

Dr. Buzzard first describes a number of cases of a form of Para-

plegia which he believes has not hitherto been noticed, and in nearly all of which the question arose as to the functional or organic nature of the affection. In these cases the weakness showed itself in inability or difficulty in flexing the thigh on the body. The patients could walk, more or less, but had difficulty in going upstairs or in raising the foot on to a chair. The reflexes and electrical reactions in the legs were normal, and many of the cases had been believed to be hysterical. Dr. Buzzard, however, considers that they were due to an isolated Atrophy of the Iliopsoas muscle.

The next point he calls attention to is the importance of the absence of the knee-jerks in a young woman. Several cases, previously thought functional, are described, in which this symptom was absent, and which, as the result showed, were cases of Friedreich's ataxy. The clinical features of disease are strikingly brought forward.

After some remarks on Urinary Troubles in functional and organic disease, attention is drawn to the importance of the Plantar Reflex—"It is a rule of almost universal application, according to my experience, that the plantar reflex is either entirely absent or very feebly indeed expressed in cases of hysterical paralysis. Sometimes by perseverance in very elaborate titillation of the foot-sole the reflex is produced, and occasionally it is easy to see that a good deal of voluntary action is expended in restraining the muscular contraction. But usually there is a simple absence of the plantar reflex, the stimulus being felt as a touch only, even in persons who are naturally very ticklish." "Its presence affords rather strong presumptive evidence in a doubtful case of the affection being of organic, not simply functional, character. It is interesting to observe that it will sometimes be observed to be absent only on the side affected with hysterical paralysis, where this is confined to one lower extremity." Several very interesting cases are described, illustrating these points.

With regard to the so-called Tendon Reflexes, we are glad to see that Dr. Buzzard states that in hysterical paraplegia these reflexes may be increased, and ankle-clonus may be present. In some of the best-known works on nervous diseases, the importance of the latter phenomenon is, we believe, estimated much too highly; it is said that its presence is almost a positive proof of organic disease—a view which we agree with Dr. Buzzard in thinking erroneous.

The rest of the book, more than 60 pages, consists of an interesting

and valuable discussion on the differential diagnosis between Hysterical Paralysis and that due to Disseminated Sclerosis—a subject “which is apt to offer diagnostic problems often of almost insoluble intricacy.” A large number of cases of disseminated sclerosis, often extending over many years, are related, in which at first the diagnosis of hysteria had been made, and we are told how very gradually—perhaps after lengthy periods of improvement—the characteristic signs of the disease manifested themselves. The points of most importance to which Dr. Buzzard draws attention are the following :—“An alleged sudden loss of power in a limb of an apparently young female, a localised numbness, or ‘pins-and-needles’ sensation, or a complaint of loss of sight in one eye, are symptoms familiar enough as expressions of functional trouble. But they are, no less, modes in which organic disease of the kind which we are discussing is very apt to make its first appearance. These local symptoms may clear off after a short time, just as would be the case if they were of hysterical origin. The girl recovers her sight or the use of her limb, and nothing more is heard of the numbness. A little later, perhaps, loss of sight in the other eye is complained of; a ‘pins-and-needles’ sensation is described in some other parts; another limb is said to be very weak. The opinion that the symptoms are due to hysteria may very possibly appear to be confirmed by this re-appearance of trouble in other situations; or the patient complains, perhaps, of weakness and stiffness in both legs, which increase so that in six or eight weeks she cannot stand. Then comes a rather rapid improvement, so that she recovers her power completely. Sooner or later—in some cases after an interval of years—the failure of power recurs. After recoveries and relapse of this kind the characteristics of confirmed disseminated sclerosis show themselves.” “In a doubtful case the persistence of plantar reflex should distinctly weigh in the direction of a diagnosis of organic disease, its absence lending support to the view that the affection is functional.” “I cannot help thinking that the view still generally held that a shifting of loss of power from one limb to another is characteristic of hysteria is quite an error. The hysterical woman who has lost all power in her legs will, it is true, very often later on (whilst still paraplegic) lose the power of one arm, usually the left; but I have not found that she is prone to lose the power in a limb, then recover it, and then lose it in another. It seems to me that the idea of this shifting powerlessness being strongly

confirmatory of hysteria has arisen from mistakes in diagnosing as hysteria cases of disseminated sclerosis. And equally so, the occurrence of numbness, 'pins-and-needles' sensation, sometimes at one part and sometimes another, points with considerable distinctness to disseminated sclerosis." "We shall find, I think, that the hysterical patient, as a rule, when loss of sight of an eye is in question, is quite blind on that side, and has usually become suddenly blind, whilst the patient with sclerosis has only more or less obscurity of vision which has come on somewhat gradually." "I am disposed to place on the tremor or intentional movement a diagnostic value higher than that possessed by any other symptom of disseminated sclerosis. I cannot call to mind one case in which this symptom was present which the sequel proved was simply functional."

There are many other important diagnostic points to which Dr. Buzzard calls attention, but we have mentioned enough to show the valuable nature of the work. The numerous cases described at length, and illustrating the various points touched on, render it a charming and most interesting book to read. We have ourselves much enjoyed it, and we warmly recommend it.

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*Atlas of Clinical Medicine.* By BYROM BRAMWELL, M.D.; F.R.C.P., Edin.; F.R.S., Edin.; Assistant Physician to the Edinburgh Royal Infirmary; &c., &c. Vol. I. Parts II. and III. Edinburgh: Printed by A. & T. Constable at the University Press. 1891. Folio. Pp. 48, and 44.

It was a gratifying task for us to review the first part of this splendid work in the number of the *Journal* for June, 1891 (Vol. XCI., page 522). On that occasion we expressed the opinion that the *Atlas* reflected the greatest credit upon author and publisher alike. This verdict is confirmed by a study of the second and third parts, which have since then been placed in our hands. The issue of the third part was unavoidably delayed in consequence of an attack of influenza, from which the author suffered. Part IV. is promised for the 1st of May, 1892.

The scope of the work has been already indicated in our former notice, and it only remains for us on the present occasion to mention the topics which are discussed in the second and third parts.

Part II. opens with a detailed description of Addison's disease, based on a typical case of the malady and on two cases which

resembled it. Dr. Byrom Bramwell strongly inclines to the view that the typical fibro-caseous lesion of the supra-renal capsules is tubercular. The theory as to the manner in which this lesion produces the symptoms of Addison's disease which seems to him most satisfactory is that which supposes—(1) that the lesion of the capsules is primary; (2) that as a result of that lesion the nervous structures in the neighbourhood of, or connected with, the capsules are implicated; and (3) that it is to the nerve disturbances produced in this manner that the symptoms of the disease are for the most part due. The clinical case upon which Dr. Bramwell's remarks are based is illustrated by two exquisite coloured plates lithographed by Messrs. M'Lagan & Cumming, of Edinburgh. The first of these is a portrait of the patient, a young lady aged twenty-six. The second shows the bluish-black (black-berry-juice-coloured) pigmentary deposits on the tongue of the patient and also the deep pigmentation of the nipple and the areola of her right breast.

The remaining topics discussed in this part are diffuse melanotic sarcoma, with pigmentation of the skin, and "Hodgkin's disease" or lymphatic anæmia. Of the latter an exhaustive description is given, including especially valuable remarks on the differential diagnosis of the affection.

Part III. may be held to surpass both its predecessors in importance and interest. Furthermore, it is illustrated by no fewer than twelve plates—coloured, or in black and white, or photogravure. It includes monographs on Progressive Unilateral Atrophy of the Face, Chronic Progressive Bulbar Paralysis (followed by a case of Paralysis of the Lips and Tongue), Ophthalmoplegia, Molluscum Fibrosum, and Xeroderma Pigmentosum of Kaposi (1870).

In his account of progressive unilateral atrophy of the face, Dr. Byrom Bramwell makes no allusion to the earliest observations on this rare form of disease. It was first described by Romberg, of Berlin, in 1846, under the designation of a "New Form of Atrophy of the Face." To the *Archives Générales de Médecine* for May, 1852 (page 51), Dr. Ch. Lasègue contributed an interesting account of the malady. A translation of his paper, by Dr. William Daniel Moore, will be found in the fourteenth volume of the *Dublin Quarterly Journal of Medical Science*, August, 1852, page 239. It is immediately followed by an abstract of a case of progressive muscular atrophy reported by M. Gallard, clinical clerk at the "Hôpital de la Pitié;" as well as by a case of unilateral



atrophy of the face detailed by Dr. Moore himself—the patient being a gentleman aged nineteen at the time he first came under observation. It is interesting to notice that the term “trophoneurosis,” adopted by Romberg for the disease, was introduced by Dr. Schott, who selected one of Romberg’s cases for the subject of his graduation thesis in the University of Marburg, in the year 1851. The title of his thesis was: “*Atrophia singularum partium corporis, quæ sine causâ cognitâ apparet, trophoneurosis est.*”

There are, probably, no other illustrations of the skin disease described by Kaposi in 1870 under the term “*xeroderma pigmentosum*” which convey such an accurate idea of this rare and curious affection. It is essentially characterised by the development on those parts of the body which are usually exposed in childhood of—(1) pigmentary deposits; (2) localised atrophic patches; (3) localised vascular dilatations (telangiectases); (4) ulcerations; and (5) warts and papillomatous or epitheliomatous outgrowths.

Dr. Bramwell’s account of ophthalmoplegia is also worthy of all praise. The case he describes is that of a little girl, aged two and a half years, in whom there was no definite history of either syphilis or tubercle. The patient made a complete recovery, having taken 5-grain doses of iodide of potassium three times a day almost continuously (not “continually,” as Dr. Bramwell has it) for a year.

These few descriptive allusions to the contents of the second and third parts of the “*Atlas of Clinical Medicine*” will prove the exceeding value of the work, which reflects the highest credit upon its distinguished author.

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*Indigestion clearly Explained, Treated, and Dieted, with Special Remarks on Gout, Rheumatism, and Obesity, and Chapter on Rearing of Infants.* By THOMAS DUTTON, M.D. Univ. Durh., M.R.C.S.E., &c. London: Henry Kimpton. 1892. Pp. 143.

THIS is not a book written for medical men or students; it is intended to be a popular work on indigestion, and its object is to instruct the public on this important subject. The author believes that if the public are to some extent educated as to the structure and functions of the body in which they live, and as to the nature of some of the most common diseases, together with the means of avoiding or alleviating them, they will be less prone to quackery

and various kinds of folly. In this view we agree with him; but when he supposes that the education of the public will be advanced by the little book before us, we are compelled to disagree with him.

We cannot congratulate Dr. Dutton on his book. It appears to us to be confusing and ill-arranged, and we do not think that an ordinary reader will gain much by its perusal. The directions and hints given are too vague to be of much practical use. In some respects, also, it reminds us of the novels that come out by instalments in the weekly journals—when we reach the middle of a peculiarly exciting scene we read “To be continued next week;” so with Dr. Dutton’s book, and even more so. On several occasions when we think we are coming to some important practical directions or hints, the author branches off elsewhere, and we cannot even hope to gain the critical information next week.

Some of Dr. Dutton’s facts are curious. We read that the chief function of the liver is to secrete bile; this bile is an excrementitious fluid, by which the excess of carbon and hydrogen not used up by the respiratory combustion is separated from the blood. We find nitrogenous food divided into vegetable (wheat, oats, and other cereals) and animal (meat, &c.), and saccharine or amylaceous foods find a separate place for themselves—a singular position in which to place cereals.

We do not recommend this book either to the professional or to the general reader.

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*The Harveian Oration on Harvey in Ancient and Modern Medicine.*

By W. H. DICKENSON, M.D., F.R.C.P.; Senior Physician to St. George’s Hospital, &c. London: Longmans, Green, & Co. 1891. Pp. 34.

THE first part of this Harveian Oration is semi-historical, treating of Harvey and his times, and moralising thereon. The author fears it is commonplace. We sympathise with him in his fears. This portion of the oration reminds us forcibly of the leading articles we read day by day at our breakfast tables. That it is commonplace is due to no fault of its illustrious author. But when already 172 orations have been delivered on this theme, how could anybody approach the subject except with the sense of “sore discouragement,” which Dr. Dickenson says he felt?

In the second part, the author explains his views as to renal

dropsy. He believes that the dropsy of acute nephritis is to some extent, if not mainly, mechanical in its nature. The high arterial tension is due to obstruction; the obstruction is beyond the minute arteries of the retina and brain, as is shown by their often bursting from the pressure to which they are subjected by their contents. The obstruction must be in the capillary system, whether from change of blood *per se*, or from vascular contraction engendered by it. To overcome this obstruction the heart beats more forcibly; and with accumulating systolic force behind and stoppage in front, increased transudation would seem to be inevitable. Dr. Dickenson thinks there may be as well some secretive process on the part of the capillary walls, but that this is uncertain. The dropsy of chronic Bright's disease is, Dr. Dickenson says, cardiac as much as renal, and is due to failure of heart-power. This view as to the dropsy of chronic nephritis we have long held. The view of acute renal dropsy is more novel. We are much pleased to read Dr. Dickenson's announcement that he intends to bring it in a more expanded form before the medical public.

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*Age of the Domestic Animals. Being a complete Treatise on the Dentition of the Horse, Ox, Sheep, Hog, and Dog.* By RUSH SHIPPEN HUIDEKORPER, M.D. Philadelphia and London: F. A. Davis. 1891. Pp. 210.

IN the treatise before us we have further evidence of the good work that is being done by those who devote themselves to the study of veterinary medicine, and now that the treatment of disease in animals is placed upon a sound scientific basis, we may look for important results from the investigations in the region of comparative pathology.

As might naturally be expected, about three-fourths of Dr. Huidekorper's book is occupied with a description of dentition of the horse—the author giving a careful account of the anatomy, periods at which the different teeth erupt, and the irregularities to which they are liable. In the chapter on cribbing, by means of three pages of illustrations, the evil effects of this vice are elucidated in a simple manner which could, with difficulty, have been done through the medium of letterpress. There is also a chapter in which the various tricks of the trade are exposed, or perhaps we ought to say the different operations which dealers practise on the teeth of horses when they wish to falsify their age.

The teeth of oxen, sheep, goats, hogs, and dogs, also receive a share of attention, the study of their teeth being simplified by what has been already said with regard to the teeth of the horse.

The last chapter in the book, devoted to a short description of the teeth of man, is interesting, as our author evidently approaches the subject from a veterinary standpoint. The determination of the age of the human animal from an examination of the teeth is, we venture to think, liable to many sources of error, and not quite such a simple matter as in a "rising three-year-old"—the periods of eruption of the "tushes" and bicuspidis in man being quite as likely to vary as to agree with the times usually laid down in text-books for their appearance.

Dr. Huidekoper's work is nicely got up and profusely illustrated. Its perusal will well repay those who desire to ascertain the age of an animal from an inspection of its mouth.

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*A Dictionary of Treatment, or Therapeutic Index, including Medical and Surgical Therapeutics.* By WILLIAM WHITLA, M.D.; Professor of Materia Medica and Therapeutics in the Queen's College, Belfast; Physician to, and Lecturer on, Clinical Medicine, Belfast Royal Hospital, &c. London: Henry Renshaw. 1892. Pp. 948.

WE have long held the opinion that in most text-books on medicine directions as to treatment are not given with sufficient detail and preciseness. For example, we read in the preface to one of the best-known and most widely-read text-books of medicine—"It seems to me best, having inculcated general principles, and pointed out the specific virtues of certain drugs, to leave the young practitioner generally as unshackled as possible with regard to his choice of particular combinations and modes of administration." While this course may have some advantages—the writer just quoted believes that the young practitioner will be more likely to become a thoughtful physician, and to benefit his patient, if he adapts his drugs and his methods to the exigencies of cases as they present themselves before him, than if he follows the stereotyped procedure of some predecessor—still it frequently leaves one rather helpless in the midst of difficulties. The present writer well remembers, when he was resident medical pupil in hospital, how difficult he found it to evolve suitable prescriptions out of bare lists of drugs given in works on medicine, and he knows that many other medical

students have been in a like situation. But the need of detailed directions as to treatment is not confined to the senior student—every medical man, no matter what his knowledge of the properties of drugs and his experience of their use may be, will be benefited by occasionally comparing his modes of treatment with those of his neighbours. It is almost impossible, especially if a doctor lives in a country-place, where he does not often meet other medical men, to avoid getting into a purely routine mode of treatment; and we believe that such a habit is highly injurious. To refer at times to the therapeutic measures employed by other men will tend to keep our own views from becoming narrow.

To all the classes of medical men to which we have referred—to students, to junior and to senior practitioners—we heartily recommend Dr. Whitla's "*Dictionary of Treatment.*" This work grew out of an attempt to append a Therapeutic Index to the author's well-known work on "*Pharmacy, Materia Medica, and Therapeutics.*" It was soon evident that a mere enumeration of the drugs suitable to the treatment of each affection would be of but little use unless the list was accompanied by some expression of opinion regarding the relative value of each drug, and of the different methods by which it might be employed. Dr. Whitla resolved to make his work as valuable as possible, and the result is the present volume of nearly 1,000 pages.

In it the various diseases and many symptoms, not diseases in themselves, but from this importance requiring special mention, are alphabetically arranged, each with full details as to treatment. Dr. Whitla generally describes his own favourite method first, and then those of other writers; but everywhere his personal opinion is apparent, pointing out advantages in this treatment, dangers in that, and so on, whereby the value of the book is much increased. The treatment is very fully given—thus, typhoid fever occupies more than 16 closely printed pages; eczema, 9 pages; piles, nearly 6; ovarian disease, 11; and these are merely examples taken at random. The treatment of surgical diseases is in some cases given more briefly, and in more general terms than that of medical affections—thus, the treatment of fractures is only described generally, and without reference to particular fractures; in other cases—*e.g.*, hernia—the article is full and detailed. The indications for the use of many of the recently introduced drugs are clearly given, and the time and mode of using operative measures—*e.g.*, tapping in pleurisy—are fully set forth. In most cases dietetic

and climatic treatment is fully described, as well as that by drugs; but in a few cases—for example, anæmia and Bright's disease—we thought the directions as to food lacked definiteness, and were somewhat incomplete.

A large number of prescriptions are given, many of which are in Latin, with the directions as to using in Latin also. We think this Latinity is a mistake; we believe it to be far more reasonable to write directions in good English than in bad Latin, which in its turn has to be translated into English by the apothecary. Besides, if Dr. Whitla had been less ambitious, and had confined himself to his native language, he would have avoided some mistakes which disfigure his pages. We do not know by what stretch of grammar "*dum effervescentia*" in the following direction, "*Capiat, ʒi. cum, ʒss. succi limonis dum effervescentia quartis horis,*" could be parsed, or could stand for "during effervescence." Is not "*horas tres postea*" (three hours after) a rather awkward phrase, instead of "*post tres horas?*" All this foreign language may be Official, but it certainly is not Latin; and the sooner the pages of excellent and valuable works cease to be disfigured with this barbarous Official language the better.

Another matter to which we object is to spoonfuls, both table, dessert, and tea—*cochlearia magna*, and *minima*. We all know how greatly one tablespoonful, for example, differs in capacity from another—our own tablespoons contain exactly one ounce each. We think it would be much better, and more conducive to exact dosage, to give doses by measure, not by spoonfuls; or else to have the bottle divided into the requisite number of portions by a mark down one side.

But these points, which we could wish altered, are, after all, very few and unimportant, and by no means lessen our very high opinion of this "*Dictionary of Treatment.*" It is clear, readable, and well up to date; the views put forward are sound and well considered. It is eminently a book to be kept on the table and frequently referred to, and we feel confident that the medical man who purchases it and uses it frequently will not regret having done so. We have nothing but admiration for Dr. Whitla's industry and perseverance—for such a work as this must have entailed enormous labour on him—and we warmly congratulate him on the success of his undertaking.

*Tooth Extraction. A Manual on the Proper Mode of extracting Teeth, with a Table exhibiting the Names of all the Teeth, the Instruments required for Extraction, and the most approved Methods of using them.* By JOHN GORHAM, M.R.C.S.E. Third Edition. London: H. K. Lewis. 1889. Pp. 44.

SURELY the time has come when students should no longer be allowed, with primitive instruments, to find out for themselves as best they can how teeth are to be wrenched from living human jaws. The services of a dental surgeon, to instruct and supervise students in this branch of their art, ought to be available at all our general hospitals, and in many a remote country district the doctor will be thankful for the skill and information he has acquired in this subject in his student days.

Those who have not had the advantage of special instruction, will find, if they read Mr. Gorham's manual, that in the short space of forty-four pages are condensed many valuable hints on the extraction of teeth. We earnestly commend this book to the attention of students and those practitioners who are located in regions where their services are required in all branches of surgery.

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#### EUROPHENE.

A NEW antiseptic vouched for by an admiring multitude of surgeons as the long-sought ideal remedy is euophene, otherwise isobutylorthoecresol-iodide—the reader may use either, but if in a hurry when writing his prescription the former name would occupy less time in spelling and would probably be less puzzling to the compounder. This new chemical which is to replace iodoform, iodol, aristol, phenol and all the other invaluable agents of this class is the discovery of W. Siebel, and its therapeutic value is proclaimed by von Eichhoff. It is an amorphous powder, of a yellow colour, with an odour of saffron; insoluble in water and glycerine; slightly soluble in alcohol, ether, chloroform, and oil. Dogs have taken large doses of the chemical and appeared unaffected by it, hence it is declared to be non-poisonous. Fifteen grains administered to a patient produced only the effect of heaviness or weight in the stomach. When administered internally iodine is detected in the urine. Euophene is recommended to be used as an ointment of 1 per cent. or 2 per cent. strength. A solution of it in olive oil 1 per cent. is used hypodermically for secondary and tertiary syphilis. The pure chemical applied as a powder is said to cure lupus, and the ointment is beneficial in the treatment of varicose ulcers, eczema, psoriasis and favus, if we accept the German statements.—*La Semaine Médicale*, July 25, 1891.

## PART III.

### SPECIAL REPORTS.

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#### REPORT ON MATERIA MEDICA AND THERAPEUTICS.<sup>a</sup>

By WALTER G. SMITH, M.D. Univ. Dubl.; Physician to Sir Patrick Dun's Hospital; King's Professor of Materia Medica and Pharmacy, School of Physic, Trin. Coll. Dubl.

*Saponin*.—About six years ago Professor Kobert announced that commercial "saponin" was not a homogeneous compound, but, as a rule, consisted of at least four different bodies, two of which were inert while the other two were very poisonous (*Pharm. Journ.*, [3], xvi., 366). Since that time the investigation has been continued in the Pharmacological Institute at Dorpat, and the sixth part of the "Arbeiten," recently issued, contains two exhaustive papers, by Nicolai Kruskal, upon "Some Saponin Substances" and "*Agrostemma Githago*, L." As these papers will probably close the investigation for the present, Professor Kobert has taken the opportunity to summarise the conclusions to be drawn from the results as far as it has gone. In the first place he expresses the opinion that the idea of a saponin as described usually in the text books has no pharmacological foundation, and at most can only have a collective application. But in price lists it should be replaced by "quillaia sapotoxin," "quillaic acid," &c., or if the name "saponin" be retained, the drug from which it has been prepared and the method of preparation should be shortly indicated. In the so-called "saponins" the chemist apparently has to do with different series of bodies, the composition of each series being represented by a general formula. One of these formulæ, now published for the first time, is  $C_nH_{2n-8}O_{10}$ , and represents a series of which at least three members have been recognised. The best known of these is the "saponin" of Stutz,  $C_{19}H_{30}O_{10}$ . The lowest member of this

<sup>a</sup> This Report is based upon an article by the writer in the "Year-Book of Treatment" for 1892.



series, which gave on analysis figures corresponding to  $C_{17}H_{26}O_{10}$ , shares this formula with the crystalline "syringin," which Körner identified as oxymethylconiferin hydrate. The amorphous substance of this composition prepared by Kruskal agrees with syringin in being a glucoside and giving a characteristic colour reaction with sulphuric acid, but whether other analogies between the two exist has not yet been determined. But one observation of the greatest interest is that it appears that several substances of this class exist which give the same results on analysis and behave similarly in all their chemical reactions, but which when tested pharmacologically show an enormous difference in the intensity of their toxic action. One of them, the "agrostemma sapotoxin," differs also physiologically from the other saponins in being absorbed by the subcutaneous tissue and by the larger intestines. This is considered to be of great hygienic importance in presence of the fact that in Russia the admixture of a certain proportion of corn cockle seed with corn is allowed upon the plea that when ground it improves the appearance of the flour. Professor Kobert considers that the continuance of this practice should be permitted only on condition of the previous removal as far as possible of the black husk and poisonous embryo.—(*Pharm. Journ.*, June 27, 1891.)

*Cocaïn and Mercury Compounds.*—A delicate reaction between cocaïn hydrochlorate and calomel has been observed by M. Schell (*Journ. Pharm. Els. Loth.*, Jan., p. 8). If a trace of cocaïn hydrochlorate be mixed by means of a dry glass rod with a very minute quantity of calomel, and the mixture be breathed upon, the moisture that condenses is sufficient to cause it to blacken immediately. No other alkaloid has been found to give the same reaction, but atropin and calomel acquire a similar coloration in boiling water or alcohol and water. It is curious to note, however, that in the case of atropin it occurs with the free alkaloid and not with a salt, whilst in that of cocaïn it occurs with a salt and not with the free alkaloid. Herr Bruner also has called attention to the incompatibility of some preparations for outward application, in which a cocaïn salt is ordered in conjunction with a mercurial compound (*Apot.-Zeit.*, Feb. 11, p. 86). An ointment of mercuric oxide and cocaïn hydrochlorate, for instance, is ordered in ophthalmic practice, but after being kept for a time the anodyne effect of the ointment gives place to a pronounced caustic action, due to the conversion of mercuric oxide into oxychloride. An ointment of cocaïn hydrochlorate, silver nitrate, and vaseline, sometimes ordered

as a dressing for wounds, is also liable to undergo alteration through formation of silver chloride, but it is pointed out that this change can be retarded by thoroughly mixing the solution of silver nitrate with the vaseline before adding the cocaïn hydrochlorate.—(*Pharm. Journ.*, 1891.)

#### ANTIPYRETICS.

*Action of Antipyretics.*—The theory as to the mode of action of antipyretics is of great practical interest. The action of antipyretics may be supposed to be due to the limitation of the oxidation processes and consequent lowering of heat development, or to an increase in the heat radiation from the surface of the body. Moreover, they may have a purely local action—*i.e.*, on the cellular tissue, or they may influence the nerve centres regulating the development or radiation of heat. Messrs. Sawodowsky and Podanowsky consider that they have proved that the lowering of temperature produced by antipyrin and antifebrin is attributable exclusively to their influence upon the brain-centres regulating the temperature, which occur in the corpus striatum (*Apot.-Zeit.*, Feb. 11, p. 87). The authors, in an experiment, cut the brain of an animal through close behind the corpus striatum and thalamus opticus, so as to isolate the organism from the heat centres, while the connection with the respiration and vaso-motor centres was retained. Although the animal so treated lived for some time and the arterial blood pressure and breathing remained unaltered, the body temperature fell continuously. Even injections of the most powerful pyretics, such as putrescent matter, caused not the slightest rise of temperature, although all the other symptoms of putrescent infection were present. The skin temperature also remained entirely unchanged, although in the case of normal animals this rises considerably after the injection of antipyretics. An apparent exception was noticed in the case of quinine hydrobromide, but this was attributed to the known action of bromine. The conclusion drawn by the authors is that the action of quinine salts, resorcin, and thallin, in lowering the temperature is dependent upon their specific influence upon the temperature-regulating centres situated in the anterior part of the brain.—(*Pharm. Journ.*, Feb. 28, 1891.)

Dr. Gottlieb points out that by calorimetric determination of the total loss of heat of an animal, at a given temperature, we can also determine the value of its heat-production. He arrives at these conclusions:—

Quinine depresses in rabbits the production of heat. The diminution in normal animals amounts to from 8 to 18 per cent.; in pyrexia induced by puncture of the brain, to 40 per cent. Simultaneously it lessens the loss of heat.

Antipyrin lowers the temperature exclusively by bringing about increased loss of heat. There is no diminution in the production of heat; *per contra*, it, in small doses, at first increases the production of heat. The rise in temperature after puncture of the brain is a regulative disturbance, and the reason why antipyretic drugs have so little effect upon healthy men and animals is the perfection of their heat-regulating mechanism.

The results of experiments upon animals agree with the clinical indications drawn at the bedside. Whenever our main object is to lower high temperature quickly, and as safely as possible, we choose a member of the antipyrin group. For long-continued antipyretic treatment, on the contrary, we give the preference to quinine.—(*Archiv. f. exp. Pathol. u. Pharm.*, xxviii., p. 167.)

*Phenocoll Hydrochlorate*.—This body, an ally of phenacetin, is an addition to the group of antipyretic and anti-rheumatic remedies; and has been reported upon by Dr. Hertel (*Deut. med. Wochenschr.*, April 9, 1891). It is a white powder, in small crystals, with a bitter taste, and soluble in sixteen parts of water at 62° F. According to Kobert it is not poisonous to animals, and has no deleterious effects on the blood, while von Mering found that 22 grains produced no symptoms in a rabbit, and that in pneumonia and typhus 15 grains acted as a trustworthy antipyretic, reducing temperature about 2° C., and never causing collapse or cyanosis. The amount of sweating was about the same as after large doses of antipyrin. Of phenocoll, a dose of 15 grains equals in its antipyretic action 23 to 30 grains of antipyrin, and 12 to 15 grains of phenacetin. Doses of 7 to 15 grains acted well as an antineuralgic. Hertel gave it in doses of 7 to 15 grains in cases of phthisis and rheumatism. The following is a summary of his results:—In phthisis, single doses of 7 grains lower the temperature about  $\frac{1}{2}$ ° C. for a short time. Doses of 7 grains given hourly for three hours reduce the temperature about 1° C., but not with certainty; the reduction lasts only a short time. Doses of 15 grains cause reduction of temperature, 1° to 1 $\frac{1}{2}$ ° C. in a few hours, the reduction generally lasting about two hours. Seventy-five grains given during twenty-four hours generally keep the temperature normal. The subsequent rise of temperature is regular, and unaccompanied by rigors or sweating. In

acute rheumatism the same dose keeps the patient free from pain, but scarcely reduces the temperature, which only falls when the joint affections improve. It has no effect in gonorrhœal rheumatism. The urine, after about 75 grains have been taken, becomes brownish-red or dark brown in colour, becoming deeper-coloured on exposure to the air. On adding solution of perchloride of iron, a dark colour is produced, which clears up somewhat with strong sulphuric acid, but does not disappear entirely, and by transmitted light shows a peculiar greenish colour. Phenocoll is excreted very quickly, as this reaction is not obtained for more than about twelve hours after the last dose. No disturbance of the heart, respiration, or digestion was ever observed. It should not be kept in watery solution, as it decomposes slowly. Hertel states that he was very favourably impressed with the general results of its use, and advises further observations.—(*Brit. Med. Journal*, Suppl., May 2, 1891.)

*Phenacetin in Influenza.*—Dr. Clemow (*Brit. Med. Journal*, June 27, 1891) fully corroborates the testimony of other observers as to the excellent effects of phenacetin in epidemic influenza. He usually gives 5 to 10 grains, either in cachets or suspended in milk, to be repeated in an hour if the pains are not fully relieved, and then every four hours until further directions. He is fully convinced of the superiority of this drug over antipyrin and salicin, and has met with no bad symptoms from its use. The greater rapidity with which the pains are relieved is very striking, and phenacetin takes rank as one of the most valuable analgesics.

#### ANTISEPTICS.

*Benzoate of  $\beta$ -naphthol.*—The insolubility of the higher aromatic compounds has till recently been a great obstacle to their study as antiseptics. The naphthols, especially naphthol  $\beta$ , have been for some time administered as intestinal antiseptics, but it was soon found that a compound of naphthol  $\beta$  with salicylic acid, introduced under the name of bethol, was more efficient. This substance varied considerably in composition, and was also inadmissible when on account of renal disease salicylic acid was contra-indicated.

MM. Yvon and Berlioz have prepared a benzoate of naphthol, which is soluble in alcohol or chloroform, feebly soluble in water or ether. This compound, when introduced into the intestine, breaks up into naphthol  $\beta$  (which remains in the intestine) and benzoic acid, which is eliminated by the kidneys in the form of alkaline salts and alkaline hippurates—(1) It is very slightly poisonous;

(2) it is an antiseptic as powerful as its congeners; (3) it encourages diuresis, the absorbed portion being rapidly eliminated by the urine; and (4) it can be given in large doses, but it is advised to give small and frequently-repeated doses rather than single large quantities. More than a drachm daily has been administered to an adult. (*Brit. Med. Journal*, Suppl., Nov. 7, 1891.)

Dr. F. W. Burton, in a paper on Putrefactive Decomposition in the Intestinal Tract (*Brit. Med. Journal*, April 4, 1891), cites several cases of typhoid fever and of tuberculous ulceration of the bowel, in which  $\beta$  naphthol was given with marked benefit—2 to 8 grains every few hours. It checked the diarrhœa and lessened the offensive odour of the stools.

*Iodphenin* is formed by treating with iodine phenacetin, to which some hydrochloric acid has been added. It can be obtained in steel-blue crystals, and is almost insoluble in water, but soluble in alcohol. Herr Scholvien brought iodphenin before the Berlin Pharmaceutical Society as a compound possessing extraordinary germicide properties. It is claimed that five minutes' contact with a 1 in 5,000 solution of iodphenin renders *Staphylococcus aureus* incapable of further developing.—(*Pharm. Journal*, May 30, 1891, from *Apot. Zeit.*)

*Sulphite of Zinc*.—Twenty years ago, in a paper read before the British Pharmaceutical Conference at Liverpool, Professor Tichborne called attention to the possible value of zinc sulphite as an antiseptic (*Pharm. Journal*, [3] i., 351). Recently he has again suggested it as a material for the preparation of antiseptic dressings, and Dr. Heuston (Adelaide Hospital, Dublin) reports that for this purpose he has found it superior to sal alembroth, it being non-poisonous, non-irritative, and highly antiseptic (*Brit. Med. Journal*, Nov. 8, p. 1064). Professor Tichborne states that zinc sulphite is best prepared by mixing in solution six parts of zinc sulphate and five and a quarter parts of sodium sulphite. The reaction takes place slowly, but goes on to completion, the new salt, which forms as a white crystalline precipitate, being very insoluble in water, though soluble in excess of sulphurous acid. Dried at 100° C., it has the composition represented by the formula  $\text{ZnSO}_3 \cdot 2\text{H}_2\text{O}$ , but if only dried at the ordinary temperature it contains another molecule of water. In contact with water it undergoes a slow but regular oxidation, which in an experiment with a saturated solution was complete on the eighteenth day. Zinc sulphite can be used for the saturation of any fabric, such as gauze or lint, without the

intervention of an adhesive material. The fabric is first boiled with water, to cleanse and sterilise it, after which a boiling solution of zinc sulphate and sodium sulphite in equivalent proportions is poured upon it, and when thoroughly mixed and saturated, the whole is allowed to stand for twelve hours. The zinc sulphite is said to be deposited in and about the fibres of the fabric in microscopic crystals, soft and even unctuous to the touch. The fabric is then passed under rollers submerged in water to remove traces of sodium sulphate. It is suggested that this kind of dressing might be dyed with an organic pigment to distinguish it from others, and for the purpose of indicating the progress of the discharges by the action of liberated sulphurous acid on the colour.—(*Pharm. Journal*, Nov. 20, 1890.)

*Creolin*.—A number of instances are on record in contravention of the asserted non-poisonous qualities of creolin. Some important evidence as to the action of creolin on the human subject may be gathered from a thesis on that compound published at Breslau during the course of this year. Dr. Bitter, the author, notes that creolin has already been used in more than 2,000 midwifery cases at Breslau. As appears to be the case with nearly every new compound of the kind, the results, according to Drs. Born and Bitter are most encouraging. In four of the midwifery cases, however, symptoms of poisoning occurred during the administration of a course of creolin injections. Three of the patients were suddenly seized with feelings of restlessness, anxiety, nausea, darkness before the eyes, and a tendency to syncope. The most peculiar feature in these cases was a strong flavour of tea or smoke in the mouth, of which all the patients complained. This symptom lasted for a long time, whilst the nausea, &c., disappeared immediately upon the discontinuance of the vaginal injections of creolin. The fourth case was more severe; the patient suffered from great restlessness and prostration for several days after the injections were left off. About thirty-six hours after the beginning of the attack the urine, drawn off with the catheter, was very dark and strongly albuminous. Within a few days these symptoms of acute nephritis disappeared. Dr. Bitter advocates creolin as superior to other disinfectants on account of its “relatively” (*sic*) non-poisonous qualities, its excellence as a deodoriser, and its blandness when applied to skin, mucous membranes, and wounds. It neither dries the vaginal mucosa nor causes any contraction of the canal. Creolin has no special hæmostatic action. Dr. Bitter finds that there are dis-

advantages in creolin, as the emulsions employed for injections are opaque, and the preparation of creolin usually on sale appears to be unstable.—(*Brit. Med. Journal*, Dec. 13, 1890.)

*Hydro-naphthol* has been before the profession for some time, but its powers as a germicide are differently estimated by different observers.

Dr. T. H. Bryce (*Brit. Med. Journal*, Nov. 22, 1890) has investigated its action in the Bacteriological Laboratory, Glasgow. His experiments were all made upon one organism, *Staphylococcus pyogenes aureus*, and with a solution of hydro-naphthol in rectified spirit and glycerine. The pure drug is insoluble in water, and this is undoubtedly a disadvantage. He concludes that, when dissolved as above, it is a powerful antiseptic agent, in a strength of 1 in 400.

The standard solution 1 in 100 is thus made:—

|                      |     |     |          |          |
|----------------------|-----|-----|----------|----------|
| Hydro-naphthol ...   | ... | ... | 1 part   | } 1 part |
| Rectified spirit ... | ... | ... | 10 parts |          |
| Glycerine ...        | ... | ... | ...      | 9 parts  |

*Aristol*, a proposed substitute for iodoform, does not appear to have attracted much attention. The contradictory experiences that have been reported may, perhaps, be partly explicable by variation in its quality. Herr Reuter finds that some specimens of aristol (= dithymol diiodide) contain alkaline iodide and free iodine. But the question arises whether an absolutely pure preparation is advantageous, for it would seem that pure aristol is so stable that it would be less likely to act as a bactericide than a preparation rendered unstable by the presence of more or less free iodine or alkaline iodide.—(*Pharm. Journal*, from *Apot. Zeit.*, Jan. 28, 1891; cf. Pollak, *Therap. Monatsch.*, December, 1890.)

*Apomorphin and Apocodein*.—Dr. Murrell (*Brit. Med. Journal*, Feb. 28, 1891) has made some interesting observations upon the value of these drugs as expectorants in the treatment of chronic bronchitis. Apomorphin can be given by the mouth in comparatively large doses ( $1\frac{1}{2}$  to 2 grains three times a day), without exciting vomiting or inconvenience. It may be applied successfully in the form of ointment ( $\frac{1}{3}$  gr. to 3 i.), and is invaluable in the bronchitis of children.

A *neutral* solution of apocodein can be injected hypodermically ( $\frac{1}{2}$  grain) without causing local irritation. It rarely produces nausea or vomiting, and is an effective expectorant. From 3 to 4 grains may be administered daily with perfect safety.

*Diuretin* has attracted some attention. It is now generally understood to be merely a mixture of theobromine-sodium and sodium salicylate. It is very unstable, and is decomposed by all acids, even by the  $\text{CO}_2$  of the atmosphere.—(*Lambert.*)

Dr. Geisler speaks well of the drug, and states that it raises the blood pressure (*Berlin klin. Wochensch.*, April, 1891), while Dr. Drozdovsky, of St. Petersburg, sums up by saying that diuretin (*a*) has no influence on the heart, (*b*) it is very unreliable as a diuretic agent, and (*c*) cannot advantageously be used as a substitute for digitalis, adonis, strophanthus, and other allied remedies.—(*Brit. Med. Journal*, Oct. 10, 1891.)

The dose of diuretin required is large—viz., 5 to 7 grammes a day. The drug is expensive, and, upon the whole, its claim for recognition does not appear to be a strong one.

*Sulphonal*.—Dr. Stewart, of Philadelphia, states that sleep can be readily induced by sulphonal, *within a few minutes*, by the simple expedient of dissolving the dose of sulphonal in about 6 fl. oz. of boiling water, the patient taking the liquid as hot as can be borne.—(*Braithwaite's Retrospect*, from *Philad. Med. News*, Jan. 1, 1891.)

*Cantharidin in Phthisis*.—In view of the conflicting statements that have been made as to the preparation and dose of the liquid used by Dr. Liebreich in the treatment of tuberculosis under the name "cantharidinate of potash," it may be convenient to put on record what is understood to be the exact formula, which has been kindly communicated by Dr. Schacht, of Berlin. In preparing the liquid 0.2 gram of cantharidin and 0.4 gram of potassium hydrate (or 0.3 gram of sodium hydrate) are weighed with great exactness, and heated in a flask of one litre capacity on a water-bath with about 20 c.c. of water, until a clear solution results. Water is then added quite gradually, while the heat is continued, until the mark is nearly reached, and then after cooling the whole is made up exactly to one litre with water. A litre of the liquid, therefore, contains 2 decigrams of cantharidin, and each cubic centimetre contains one-tenth of a milligram.—(*Pharm. Journal*, March 28, 1891.)

This drug is not, as in the case of "tuberculin," open to the imputation of being a secret remedy. It, however, is liable to induce toxic symptoms, and the reports in the literature of the past year, when put together, give little encouragement for its employment in the treatment of tuberculosis. (Cf. *Brit. Med. Journal*, May 9, 23, 30, 1891.)



## PART IV.

### MEDICAL MISCELLANY.

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*Reports, Transactions, and Scientific Intelligence.*

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#### ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—GEORGE H. KIDD, M.D., F.R.C.S.I.

General Secretary—W. THOMSON, F.R.C.S.I.

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#### SECTION OF OBSTETRICS.

President—ANDREW J. HORNE, F.R.C.P.I.

Sectional Secretary—F. W. KIDD, M.D.

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*Friday, January 8, 1892.*

Dr. SMYLY in the Chair.

#### *Anæsthetics : a Clinical Study.*

DR. DUDLEY BUXTON, of London, gave an Address on the above subject. He pointed out that although anæsthetics had been applied to surgery for nearly half a century yet with the exception of a few monographs such as those of Snow, Bernard, and some few others, but imperfect attempts had been made to treat the subject from the clinical standpoint. Passing the literature of the subject under review he pointed out that the various Commissions and investigations which had been carried out in the past had conflicted in their findings, so that although some had claimed to have settled the various *questiones vexatæ*, yet really no definite conclusions could rationally be accepted, because while the experiments undertaken by different observers do not give uniform results, the observers themselves were so well known as careful and skilled experimenters that it was impossible to accept the evidence of one side rather than that of another. This being so, he urged that the time had come for the profession itself to take up the matter, and to collect from their hospital and private practice a reliable record of the action of anæsthetics upon human beings. The present occasion afforded a favourable opportunity for this, as a committee had been formed by the British Medical Association for the very purpose of initiating an exhaustive inquiry into the action of

anæsthetics. He then pointed out the various sources of information from which evidence might be collected, viz., from *post mortem* reports upon cases of deaths under anæsthetics; from the symptoms of cases in which more or less difficulty had arisen during the course of administration of an anæsthetic; and lastly, from cases in which the phenomena of the normal induction of anæsthesia presented themselves. He then described the *post mortem* appearances which had been described, and showed in what way their evidence could be relied upon and how far it must be accepted with caution. He further entered in detail upon the evidence which could be obtained from cases when unusual phenomena presented themselves, and showed the lines along which the investigations should travel. He indicated, for example, how a mere insufficiency of inspiration might arise from very various causes, and so that the inquiry into this particular complication would have to enter most carefully into the very various causes of it, and added that the practical bearings of the matter were well shown by this example, as upon the correct explanation of the symptoms seen must rest the choice of the method of treatment employed and upon that hung the chance of the patient's life being saved. He then considered *seriatim* the points which were involved in the headings under which the inquiry was seeking information, viz.—age, sex, race, time of day when the anæsthetic was taken, the manner in which it was given, the source and purity of the drug, and the after effects observed. These could all be grouped under three headings—namely, (1) those affected by the individual patient; (2) those affected by the nature of operation; and (3) those affected by the chemical nature and reaction of the anæsthetic, *e.g.*, its purity, the changes it had undergone by the action of the air or sunlight, or that of illuminating gas. A thorough investigation of these sources of information could not fail to result in a vast increase in our knowledge of the action, dangers, and complications of anæsthetics, and would, he thought, teach the whole profession much that was valuable and much that could not but prove of great use to humanity at large. Under these three headings were then passed in review, by the speaker, all the phenomena as met with during the use of ether, chloroform, nitrous oxide, and their bearing upon the various questions at issue.

The PRESIDENT of the Royal College of Surgeons said he was asked by Dr. Childs, of Weymouth, to form a committee in Ireland in connection with the Anæsthetic Committee, and he hoped to do so as soon as possible. The President hoped the President of the Royal College of Physicians, and Fellows and Members of his College, would co-operate. Also the Dublin Branch of the British Medical Association, and the Royal Academy of Medicine, the Infirmaries, and Workhouses, and Dispensaries. In fact, the anæsthetic question is one of vital importance to every member of the profession, no matter where located, and also to each

individual who takes an anæsthetic. He also drew attention to the greater risk attendant on the administration of anæsthetics in cases of minor operations—and reductions of dislocations than in major operations. He was thankful to say he never was present at a death from an anæsthetic, but saw several “touch-and-go cases.” He confessed he was always more afraid of the anæsthetic than the operation.

MR. ORMSBY stated he hoped something definite might come from this commission, but he greatly feared if the commission was not put in the hands of an experienced committee, with two local hon. secretaries, who had specially investigated the subject of anæsthetics, and who would really take trouble about the matter, very little good would be done. As an operating surgeon he always feared the anæsthetic far more than the operation, and he considered that if the investigation was carried out in a thorough manner, it would prove a valuable record. As the paper did not allow any discussion on the relative safety of one anæsthetic over another, he would conclude his remarks by congratulating Dr. Dudley Buxton on his very able and practical paper.

MR. THOMSON was of opinion that much good would result from the work of the committee which it was proposed to appoint. He agreed in the importance of instruction in the methods of administering anæsthetics, all of which had dangers; and he was afraid that everywhere the profession had failed in its duty in this respect. The paper did not permit any discussion on the merits of various anæsthetics, but as to the causes which were supposed to lead to death. He thought there was to be added the influence of fright which was produced by the publication in the ordinary newspapers of reports of deaths from anæsthetics.

DR. HARLEY.—I fear there has been a panic about anæsthetics displayed here to-night quite uncalled for, and I was sorry to hear the President of the College of Surgeons state that he approached an operation with more fear of the anæsthetic than of the operation. I have given anæsthetics frequently for the late Mr. Butcher, Mr. Wheeler, and other surgeons, also for obstetric surgeons, and have had patients anæsthetised for from an hour and a half to two hours, and for Emmet's operation, Hagar's dilatation, and such others, besides many capital operations, and I am happy to say the operating surgeon never had any anxiety about the patient. I have never seen a death from anæsthetics, nor have I ever been frightened about a patient. I have never even had a case of what Mr. Croly calls “touch-and-go.” I have been twenty years practising, and have never heard of more than two or three deaths in all that time from an anæsthetic. In private practice I certainly always devote my whole attention to my own duty, and never think of the operation.

MR. FOX.—Dr. Buxton's paper gives very little scope for the discussion of the method of administration of anæsthetics. As regards the relative

values of chloroform and ether as anæsthetics, we are precluded from discussing it. The author has stated that deaths from chloroform were still increasing, but he does not mention that the percentage of deaths is less. Outside London, with the exception of New England States of America, chloroform is the favourite anæsthetic. The risk referred to as due to emphysema, might be avoided by inhalation of oxygen. The advocacy of certification cannot be approved of; there are too many certificates. What is required is sound clinical and theoretical teaching on the subject, and a searching examination of candidates on their risks. Climate and race cannot have any effect other than the slightest on chloroform. It is used by Semites in India and Aryans in Scotland with equal success.

SIR WILLIAM STOKES fully endorsed the opinions expressed by the preceding speakers as regards the importance of the communication of Dr. Dudley Buxton, and thought that it was of the utmost importance that the administration of anæsthetics should not be entrusted to inexperienced persons, and also to the necessity of employing pure anæsthetics. He, however, expressed some disappointment that a sufficiently definite line of investigation was not indicated by Dr. Buxton in the proposed inquiry, and feared that if the results of the labours of the Committee about to be formed were to be nothing but a record of cases to which anæsthetics had been administered, the statistics would not be attended with better results than those of the collective investigation of disease which were eminently unsatisfactory.

DR. MYLES was of opinion that the method proposed was simply a collective investigation committee; that the results, as in similar cases before, would be merely a certain amount of temporary notoriety for the leaders of the movement. Dr. Myles further pointed out that very little reliance could be placed on the observations of untrained men, and that the experimental method was the only one from which reliable deductions could be drawn.

MR. F. A. NIXON.—I must take exception to the statements which have been made to-night:—1st. That the Profession in Dublin are in any way careless in the administration of anæsthetics. This is a grave reflection upon them, and I may say for myself, that the duty of giving an anæsthetic is always to me a subject of great anxiety, and one which occupies my *entire* attention. 2nd. That those who administer anæsthetics are ignorant, inexperienced, and do so without any instruction on the subject. This is, indeed, a grave reflection on the clinical teaching of the Dublin School. I wish, again, to say for myself, that it has always been my practice to carefully instruct students in the administration of the anæsthetic before and during its administration; to draw their attention especially to the condition of the respiration, the pupil, the pulse, the appearance of the face, &c., and this I consider to be one of the most

important duties of every clinical teacher, which I regret to hear to-night has been so much neglected.

DR. DUDLEY BUXTON then replied.

## SECTION OF ANATOMY AND PHYSIOLOGY.

President—HUMPHREY J. BROOMFIELD, F.R.C.S.I.

Sectional Secretary—A. BIRMINGHAM, M.B.

*Friday, January 15, 1892.*

DR. BROOKS in the Chair.

### *Exhibits.*

I. PROFESSOR FRASER exhibited a beautiful collection of photographic enlargements of serial sections of embryos, and of brains. He explained how they were made, and pointed out the great advantages of using this method of reproducing such sections, as contrasted with old methods of copying with the camera lucida.

The CHAIRMAN complimented Professor Fraser on his work, and suggested the advisability of supplying with such reproductions, line-tracings, which would bring the important point of the sections more clearly before the untrained eye.

PROF. FRASER, in reply, agreed with the Chairman, and explained how such tracings might be simply and quickly produced with the aid of photography.

II. PROFESSOR BIRMINGHAM exhibited a specimen in which the transverse ligament of the atlas was ossified, except at the extremities, which still remained fibrous at the attachments to the bone. The odontoid process might be rotated freely within its ring.

The CHAIRMAN asked some questions about the specimen, to which Prof. Birmingham replied.

### *Papers.*

I. DR. ROBERT H. WOODS read a paper on a few applications of a physical theorem to membranes in the human body in a state of tension.

The theorem was that if  $P$  be the pressure of fluid contained in a membrane curved circularly in two directions at right angles to one another, and if  $r$  and  $r$  be the two radii of curvatures and  $T$  the tension at a given point,

$$\text{Then—} P \propto T \left( \frac{1}{r_1} + \frac{1}{r} \right)$$

This theorem, when applied to the heart, shows that the tension in the walls is not the same for different points on the heart wall, nor can it be

constant for the same point in different stages of contraction, on account of the variation in the radii of curvature, but will be greater according as the curvature is more gradual and the heart more dilated. The organ, then, will have to make a greater effort at the beginning than towards the end of systole. But the heart wall is thinnest when most dilated; hence we have the two factors contributing towards the difficulty of commencing systole. The paper went on to show that this difficulty is, in part at least, got over by the columnæ carneæ and musculi papillares which cross the cavity of the heart, and thus act more directly on its wall, as well as economising space.

An example was taken from the pathological condition known as prostatic bladder. The ridging on the interior of the bladder was an attempt to form columnæ carneæ of its own for the purpose of raising the pressure of the urine with the view of overcoming the resistance to its outflow.

The same theorem, when applied to the uterus, explains the reason why an abnormally great collection of liquor amnii renders the organ almost powerless in expelling the fœtus, and also explains why letting a quantity of liq. amnii escape facilitates its expulsion.

The author exhibited some specimens of hearts hardened under moderate interventricular pressure, and proved that if the thickness of the wall at different points be substituted for the tension (to which it may be taken as proportional), the formula

$$T \left( \frac{1}{r_i} + \frac{1}{r} \right)$$

is constant, or that the thickness of the heart at any point bore a definite relation to the curvature at that point.

The want of a tendency to heal in varicose veins was also explained in a similar way, for the more dilated the vein the higher the tension in its walls and the less availed any effort it could make at contracting to its normal size.

The author also deduced that in an adult heart the pressure in the left ventricle is about six and a half times that of the right. There is reason to believe that the pressure in the left ventricle is a little over nine feet of water; that in the right would, on this assumption, be equal to a head of 17 inches of water.

The CHAIRMAN congratulated Dr. Woods on his able paper. He was glad to hear his conclusions as to the use of the musculi papillares and columnæ carneæ, with which he agreed.

PROFESSOR FRASER doubted the applicability of such precise mathematical rules to structure in animal bodies. He would like to know if Dr. Woods' conclusions might be applied to all hearts.

PROFESSOR BIRMINGHAM complimented Dr. Woods upon the production of such an interesting paper. Applying these conclusions to the heart of

man, he would like to hear from Dr. Woods how he accounted for the distribution of the columnæ carneæ on the interventricular septum. In the left ventricle, above, where the curvature is most open, the columnæ carneæ are almost absent, while they are numerous below, where the curve is reduced. On the right side of the septum, which is convex, the columns are much better developed. Professor Birmingham also referred to an old theory of the use of the columnæ carneæ—namely, that by whipping the blood, they caused it to give off its gas more readily, as when flat soda-water is whipped up, it gives a renewed discharge of gas. He much preferred Dr. Woods' scientific explanation.

In reply, DR. WOODS was of opinion that his theorem and conclusion might be applied to all hearts. He thought the soda-water explanation of the function of the columnæ carneæ could not be entertained, as the gases were not given off in the ventricle, and further, were not in true solution in the blood; and that the reason why stirring flat soda-water evolved more gas, was that it was shown the example by the gas adhering to the rod.

*Irregular Nerve Supply to the Dorsum of the Foot.*

DR. P. J. FAGAN read a note of an irregular nerve supply to the dorsum of the foot. The external saphenous supplied the outer three and a half toes. The internal saphenous ran along the inner side of the great toe to its tip. The musculo cutaneous sent one branch to the inner side of the great toe, and another to anastomose with the external saphenous. The anterior tibial divided into two branches; one supplied the contiguous sides of the great and second toe, and the other ran to the dorsum of the third. Such a condition was not reported amongst the 229 feet examined during the collective investigation of the Anatomical Society last year.

The CHAIRMAN discussed the communication at some length. He referred to the abnormal arrangement of the anterior tibial, and he compared it to the condition which he had found in certain lizards. He had never seen an internal saphenous with such an extensive distribution.

The Section then adjourned.

COCAIN.

M. MAGITOT (*Journal de Pharmacie et de Chimie*) writes:—Cocain should not be employed as an anæsthetic in cases of cardiac, respiratory, or nerve troubles. Cocain should be deeply injected instead of subcutaneously, care being taken to avoid intra-venous injection. Cocain should be administered to the patient when he is lying down. Cocain should be administered *fractionally* to allow of toxic symptoms being watched.—*Répertoire de Pharmacie*, No. 8, 1891.

## SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. MOORE, B.A., M.D., Univ. Dubl.; F.R.C.P.I.;  
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### VITAL STATISTICS

*For four Weeks ending Saturday, January 2, 1892.*

The deaths registered in each of the four weeks in the sixteen principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000 :—

| Towns     | Weeks ending |          |          |         | Towns       | Weeks ending |          |          |         |
|-----------|--------------|----------|----------|---------|-------------|--------------|----------|----------|---------|
|           | Dec. 12.     | Dec. 19. | Dec. 26. | Jan. 2. |             | Dec. 12.     | Dec. 19. | Dec. 26. | Jan. 2. |
| Armagh -  | 31·5         | 12·6     | 44·1     | 51·6    | Limerick -  | 29·4         | 21·0     | 15·4     | 29·4    |
| Belfast - | 42·2         | 43·8     | 35·5     | 37·7    | Lisburn -   | 17·2         | 21·5     | 38·7     | 73·1    |
| Cork -    | 56·0         | 57·4     | 47·6     | 60·2    | Londonderry | 24·0         | 20·8     | 8·0      | 19·2    |
| Drogheda  | 39·6         | 17·6     | 8·8      | 44·0    | Lurgan -    | 27·6         | 46·0     | 32·2     | 50·6    |
| Dublin -  | 24·5         | 32·6     | 28·2     | 43·8    | Newry -     | 11·7         | 27·3     | 11·7     | 27·3    |
| Dundalk-  | 23·4         | 27·8     | 7·8      | 11·7    | Sligo -     | 10·4         | 5·2      | 10·4     | 10·4    |
| Galway -  | 30·4         | 6·7      | 3·8      | 49·4    | Waterford - | 19·2         | 24·0     | 21·6     | 26·4    |
| Kilkenny  | 51·7         | 32·9     | 0·0      | 37·6    | Wexford -   | 22·5         | 45·0     | 40·5     | 31·5    |

In the week ending Saturday, December 12, 1891, the mortality in twenty-eight large English towns, including London (in which the rate was 18·1), was equal to an average annual death-rate of 19·8 per 1,000 persons living. The average rate for eight principal towns of Scotland was 30·6 per 1,000. In Glasgow the rate was 26·2, and in Edinburgh it was 45·3.

The average annual death-rate represented by the deaths registered during the week in the sixteen principal town districts of Ireland was 32·5 per 1,000 of the population (unrevised) according to the recent Census.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2·3 per 1,000, the rates varying from 0·0 in ten of the districts to 4·7 in Kilkenny—the 11 deaths from all causes registered in that district comprising 1 from whooping-cough. Among the 207 deaths from all causes registered in Belfast are 3 from measles, 1 from typhus, 6 from whooping-cough, 4 from enteric fever, 3 from



diarrhœa, 20 from phthisis, and 81 from diseases of the respiratory system. The 80 deaths in Cork comprise 2 from whooping-cough, 1 from enteric fever, 4 from phthisis, and 43 from diseases of the respiratory system. The Assistant-Registrar of No. 4 District, Belfast, specially reports 8 deaths from influenza, and the Registrar of No. 5 District reports 2 deaths from the same disease.

In the Dublin Registration District the registered births amounted to 154—96 boys and 58 girls; and the registered deaths to 168—88 males and 80 females.

The deaths, which are 39 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 25·2 in every 1,000 of the estimated population. Omitting the deaths (numbering 5) of persons admitted into public institutions from localities outside the district, the rate was 24·5 per 1,000. During the forty-nine weeks of the year, ending with Saturday, December 12, the death-rate averaged 25·6, and was 1·6 under the mean rate in the corresponding period of the ten years 1881—1890.

Twenty-five deaths from zymotic diseases were registered, being 1 in excess of the average for the corresponding week of the last ten years and 3 over the number for the week ended December 5. They comprise 3 from influenza (including 2 cases in which the disease was complicated with bronchitis), 3 from whooping-cough, 11 from enteric fever, 3 from diarrhœa, 2 from dysentery, and 1 from erysipelas.

The number of cases of enteric fever admitted to hospital is 23, being 6 under the admissions for the preceding week, but 3 over the number for the week ended November 28. Thirty-five enteric fever patients were discharged, 4 died, and 133 remained under treatment on Saturday, being 16 under the number in hospital at the close of the preceding week.

The hospital admissions for the week include also 2 cases of measles, but no cases of scarlatina or typhus were received. Eight cases of measles, 5 of scarlatina, and 2 of typhus, remained under treatment in hospital on Saturday.

The number of deaths from diseases of the respiratory system registered is 50, being equal to the average for the corresponding week of the last ten years, but 29 under the number for the week ended December 5. The 50 deaths consist of 31 from bronchitis and 19 from pneumonia or inflammation of the lungs.

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In the week ending Saturday, December 19, the mortality in twenty-eight large English towns, including London (in which the rate was 17·8), was equal to an average annual death-rate of 19·1 per 1,000 persons living. The average rate for eight principal towns of Scotland was 26·0 per 1,000. In Glasgow the rate was 24·6, and in Edinburgh it was 26·8.

The average annual death-rate in the sixteen principal town districts of Ireland was 35·7 per 1,000 of the population (unrevised) according to the recent Census.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2·2 per 1,000, the rates varying from 0·0 in ten of the districts to 9·2 in Lurgan—the ten deaths from all causes registered in that district comprising 2 from whooping-cough. Among the 215 deaths from all causes registered in Belfast are 2 from measles, 1 from typhus, 6 from whooping-cough, 1 from diphtheria, 3 from enteric fever, 3 from diarrhœa, 16 from phthisis, and 93 from diseases of the respiratory system. The 82 deaths in Cork comprise 3 from whooping-cough, 1 from enteric fever, 12 from phthisis, and 38 from diseases of the respiratory system. The Assistant-Registrar of Belfast No. 4 District specially reports 4, and the Registrar of No. 5 District 3 deaths from influenza and its complications.

In the Dublin Registration District the registered births amounted to 234—114 boys and 120 girls; and the registered deaths to 226—112 males and 114 females.

The deaths, which are 13 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 33·9 in every 1,000 of the population. Omitting the deaths (numbering 9) of persons admitted into public institutions from localities outside the district, the rate was 32·6 per 1,000. During the fifty weeks of the year, ending with Saturday, December 19, the death-rate averaged 25·7, and was 1·6 under the mean rate in the corresponding period of the ten years 1881–1890.

Twenty-nine deaths from zymotic diseases were registered, being 4 over the average for the corresponding week of the last ten years, and also 4 over the number for the week ended December 12. They comprise 8 from influenza and its complications, 4 from whooping-cough, 7 from enteric fever, 5 from diarrhœa, and 1 from dysentery.

Twenty-four cases of enteric fever were admitted to hospital, being 1 over the admissions for the preceding week, but 5 under the number for the week ended December 5. Forty enteric fever patients were discharged, 3 died, and 114 remained under treatment on Saturday, being 19 under the number in hospital at the close of the preceding week.

The hospital admissions for the week include, also, 3 cases of measles, 4 of scarlatina, and 1 case of typhus. Five cases of measles, 8 of scarlatina, and 1 case of typhus remained under treatment in hospital on Saturday.

Seventy-two deaths from diseases of the respiratory system were registered, being 17 in excess of the average for the corresponding week of the last ten years, and 22 over the number for the week ended December 12, which, however, was 29 under that for the week ended

December 5. The 72 deaths comprise 51 from brouchitis, and 18 from pneumonia or inflammation of the lungs.

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In the week ending Saturday, December 26, the mortality in twenty-eight large English towns, including London (in which the rate was 21·8), was equal to an average annual death-rate of 22·8 per 1,000 persons living. The average rate for eight principal towns of Scotland was 27·1 per 1,000. In Glasgow the rate was 27·0, and in Edinburgh it was 25·4.

The average annual death-rate represented by the deaths registered in the sixteen principal town districts of Ireland was 29·2 per 1,000 of the unrevised population, based on the Census of 1891.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 1·9 per 1,000, the rates varying from 0·0 in twelve of the districts to 3·9 in Newry—the 3 deaths from all causes registered in that district comprising 1 from whooping-cough. Among the 174 deaths from all causes registered in Belfast are 1 from typhus, 8 from whooping-cough, 1 from diphtheria, 4 from diarrhœa, 24 from phthisis, and 84 from diseases of the respiratory system. The 68 deaths in Cork comprise 1 from whooping-cough, 2 from diphtheria, 10 from phthisis, and 32 from diseases of the respiratory system. The Assistant-Registrar of Belfast No. 4 District specially reports 2 deaths from influenza.

In the Dublin Registration District the registered births amounted to 134—81 boys and 53 girls; and the registered deaths to 194—99 males and 95 females.

The deaths, which are 19 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 29·1 in every 1,000 of the population. Omitting the deaths (numbering 6) of persons admitted into public institutions from localities outside the district, the rate was 28·2 per 1,000. During the fifty-one weeks of the year, ending with Saturday, December 26, the death-rate averaged 25·8, and was 1·6 under the mean rate in the corresponding period of the ten years 1881–1890.

The number of deaths from zymotic diseases registered is 25, being 2 over the average for the corresponding week of the last ten years, but 4 under the number for the week ended December 19. The 25 deaths comprise 1 from typhus, 5 from influenza and its complications, 5 from whooping-cough, 8 from enteric fever, 1 from diarrhœa, 1 from dysentery, and 1 from erysipelas.

The number of cases of enteric fever admitted to hospital is 20, being a decline of 4 as compared with the admissions for the preceding week. Twelve enteric fever patients were discharged, 3 died, and 119 remained under treatment on Saturday, being 5 over the number in hospital at the close of the preceding week.

The hospital admissions for the week include, also, 1 case of measles, 3 cases of scarlatina, and 4 of typhus, against 3 cases of measles, 4 of scarlatina, and 1 of typhus admitted during the preceding week. Five cases of measles, 11 of scarlatina, and 4 of typhus remained under treatment in hospital on Saturday.

Deaths from diseases of the respiratory system, which had risen from 55 for the week ended December 12, to 72 for the following week, fell this week to 52, but this number is one over the average for the 51st week of the last ten years. The 52 deaths comprise 40 from bronchitis and 9 from pneumonia or inflammation of the lungs.

In the week ending Saturday, January 2, 1892, the mortality in twenty-eight large English towns, including London (in which the rate was 41·9), was equal to an average annual death-rate of 37·4 per 1,000 persons living. The average rate for eight principal towns of Scotland was 26·0 per 1,000. In Glasgow the rate was 29·3, and in Edinburgh it was 22·8.

The average annual death-rate in the sixteen principal town districts of Ireland was 40·9 per 1,000 of the population (unrevised) according to the recent Census.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 3·1 per 1,000, the rates varying from 0·0 in seven of the districts to 9·4 in Kilkenny—the 8 deaths from all causes registered in that district comprising 1 from typhus and 1 from whooping-cough. Among the 185 deaths from all causes registered in Belfast are 1 from measles, 2 from scarlatina, 1 from typhus, 7 from whooping-cough, 3 from diphtheria, 2 from enteric fever, 2 from diarrhoea, 23 from phthisis, and 72 from diseases of the respiratory system. Among the 86 deaths in Cork are 1 from whooping-cough, 1 from enteric fever, 3 from diarrhoea, 14 from phthisis, and 25 from diseases of the respiratory system. The 17 deaths in Lisburn comprise 1 from enteric fever and 1 from diarrhoea. The Registrar of Belfast No. 5 District specially reports 1 death from influenza. In Dundalk 1 death and in Lisburn 2 deaths were recorded from influenza. The Assistant-Registrar of Dundalk remarks that “influenza is very prevalent in the district.”

In the Dublin Registration District the registered births amounted to 193—104 boys and 89 girls; and the registered deaths to 305—142 males and 163 females.

The deaths, which are 94 over the average number for the corresponding week of the ten years 1881–1890, represent an annual rate of mortality of 45·8 in every 1,000 of the population. Omitting the deaths (numbering 13) of persons admitted into public institutions from localities outside the district, the rate was 43·8 per 1,000. During the fifty-two weeks ending with Saturday, January 2, 1892, the death-rate

averaged 26·2, and was 1·3 under the mean rate for the ten years 1881-1890.

Thirty-eight deaths from zymotic diseases were registered, being 13 in excess of the average for the corresponding week of the ten years 1881-1890, and also 13 over the number for the week ended December 26, 1891. The 38 deaths comprise 10 from influenza and its complications, 8 from whooping-cough (6 of which occurred in No. 2 North City—Lisburn-street—District), 1 from diphtheria, 10 from enteric fever, and 2 from diarrhoea.

The number of cases of enteric fever admitted to hospital is 17, being 3 under the number of admissions for the preceding week, and 7 under that for the week ended December 19. Twenty enteric fever patients were discharged, 1 died, and 115 remained under treatment on Saturday, being 4 under the number in hospital at the close of the preceding week.

The hospital admissions for the week include, also, 2 cases of scarlatina and 1 case of typhus, but no cases of measles were received. During the preceding week 1 case of measles, 3 of scarlatina, and 4 of typhus had been admitted. Three cases of measles, 9 of scarlatina, and 5 of typhus remained under treatment in hospital on Saturday.

Deaths from diseases of the respiratory system amount to 87, being 32 over the average for the corresponding week of the ten years 1881-1890, and 35 over the number for the week ended December 26. They comprise 57 from bronchitis, 23 from pneumonia or inflammation of the lungs, and 3 from croup.

#### METEOROLOGY.

*Abstract of Observations made in the City of Dublin, Lat. 53° 20' N.  
Long. 6° 15' W., for the Month of December, 1891.*

|                                                    |   |   |   |                |
|----------------------------------------------------|---|---|---|----------------|
| Mean Height of Barometer,                          | - | - | - | 29·818 inches. |
| Maximal Height of Barometer (on 21st, at 9 a.m.),  |   |   |   | 30·610 „       |
| Minimal Height of Barometer (on 10th, at 4 p.m.)   |   |   |   | 28·814 „       |
| Mean Dry-bulb Temperature,                         | - | - | - | 42·3°.         |
| Mean Wet-bulb Temperature,                         | - | - | - | 40·5°.         |
| Mean Dew-point Temperature,                        | - | - | - | 38·3°.         |
| Mean Elastic Force (Tension) of Aqueous Vapour,    | - |   |   | ·235 inch.     |
| Mean Humidity,                                     | - | - | - | 86·1 per cent. |
| Highest Temperature in Shade (on 3rd)              | - |   |   | 58·0°.         |
| Lowest Temperature in Shade (on 22nd),             | - | - | - | 25·2°.         |
| Lowest Temperature on Grass (Radiation) (on 22nd), |   |   |   | 19·2°.         |
| Mean Amount of Cloud,                              | - | - | - | 55·2 per cent. |
| Rainfall (on 21 days),                             | - | - | - | 3·299 inches.  |
| Greatest Daily Rainfall (on 6th),                  | - | - | - | ·747 inch.     |
| General Directions of Wind,                        | - | - | - | W., S.W., S.   |

*Remarks.*

The leading features of the weather were—a preponderance of south-westerly winds, frequent gales, heavy rains, and unsteady, but often high temperature. From the 16th to the 25th, however, an anti-cyclone lay over England, France, and Germany, and within its central area severe cold and dense fogs with calms prevailed. Even at this time the S.W. wind and mild temperature continued on the Atlantic coasts of Ireland, Scotland, and Norway.

In Dublin the arithmetical mean temperature ( $43.0^{\circ}$ ) was decidedly above the average ( $41.3^{\circ}$ ); the mean dry bulb readings at 9 a.m. and 9 p.m. were  $42.3^{\circ}$ . In the twenty-six years ending with 1890, December was coldest in 1878 (M. T. =  $32.8^{\circ}$ ), and in 1874 (M. T. =  $36.8^{\circ}$ ), and warmest in 1865 (M. T. =  $46.2^{\circ}$ ). In 1886 the M. T. was as low as  $37.9^{\circ}$ ; in the year 1879 (the “cold year”) it was also  $37.9^{\circ}$ . In 1887 the M. T. was  $39.9^{\circ}$ ; in 1888 it was  $43.6^{\circ}$ ; in 1889 it was  $43.8^{\circ}$ ; and in 1890 it was  $39.2^{\circ}$ .

The mean height of the barometer was 29.818 inches, or 0.057 inch below the corrected average value for December—namely, 29.875 inches. The mercury rose to 30.610 inches at 9 a.m. of the 21st, and fell to 28.814 inches at 4 p.m. of the 10th. The observed range of atmospherical pressure was, therefore, 1.796 inches—that is, a little more than one inch and three-quarters.

The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was  $42.3^{\circ}$ , or only  $0.5^{\circ}$  below the value for November, and  $5.9^{\circ}$  below that for October, 1891. Using the formula, *Mean Temp.* = *Min.* + (*max*—*min.*  $\times .52$ ), the value was  $43.2^{\circ}$ , or  $1.7^{\circ}$  above the average mean temperature for December, calculated in the same way, in the twenty-five years’ 1865–89, inclusive ( $41.5^{\circ}$ ). The arithmetical mean of the maximal and minimal readings was  $43.0^{\circ}$ , compared with a twenty-five years’ average of  $41.3^{\circ}$ . On the 3rd the thermometer in the screen rose to  $58.0^{\circ}$ —wind, S.W.; on the 22nd the temperature fell to  $25.2^{\circ}$ —wind, S. The minimum on the grass was  $19.2^{\circ}$  also on the 22nd. There were 6 days of frost in the screen and 15 days of frost on the grass.

The rainfall was 3.299 inches, distributed over 21 days. The average rainfall for December in the twenty-five years, 1865–89, inclusive, was 2.404 inches, and the average number of rainy days was 16.9. The rainfall, therefore, and the rainy days were decidedly above the average. In 1876 the rainfall in December was very large—7.566 inches on 22 days. In 1872, 4.932 inches fell on as many as 24 days; and in 1868 (which was otherwise a fine and dry year) 4.749 inches fell on as many as 27 days. On the other hand, in 1867, only .771 of an inch was measured on 13 days; and in 1871 the December rainfall was only .797 of an inch on 15 days. In 1885, only .742 of an inch of rain was measured

on but 10 days, but in 1886 the rainfall was 3·348 inches, distributed over as many as 21 days. In 1887 ("the dry year"), the rainfall was 1·223 inches on 19 days; in 1888, it was 2·911 inches on 17 days; in 1889, 1·554 inches fell on 15 days; and in 1890, it was 1·856 inches on 11 days.

A lunar halo appeared on the 11th, and a lunar rainbow on the 15th. Solar halos were observed on the 8th, 9th, 13th, and 14th. High winds were noted on 14 days, and attained the force of a gale on as many as 8 occasions—the 3rd, 5th, 7th, 9th, 10th, 12th, 15th, and 28th. The atmosphere was more or less foggy in Dublin on the 7th, 13th, 16th, 20th, 21st, 22nd, 23rd, 24th, and 30th. Snow or sleet fell on the 11th. Hail fell on the 10th.

During the period ended Saturday, the 5th, the weather fell into a rough and rainy state, with squally S.W. winds and high but unstable temperature. On Tuesday, the 1st, and again on Thursday deep depressions skirted the western coasts of Ireland and Scotland, with the result that southerly to westerly gales prevailed, with rainy or showery weather in all parts of the country. On Tuesday night a subsidiary disturbance crossed England, where rain fell heavily. At 8 a.m. of Thursday, the barometer was down to 28·64 inches at Stornoway in the Hebrides. During the following night thunder and lightning occurred in the N.W. and N. of Ireland. Another depression passed by on Saturday, when rain fell heavily at times. One of the most striking features of the week was the high temperature experienced on Thursday, when the thermometer rose to 56° at Oxford, Cambridge, and Loughborough; to 57° in London, at Parsonstown, Shields, Leith, and as far north as Nairn; to 58° in Dublin, and to 59° at York. In Dublin the height of the barometer varied between 29·231 inches at 9 a.m. of Thursday (wind S.S.W.) and 29·888 inches at 9 p.m. of Friday (wind S.S.W.). Temperature in the screen rose to 58·0° on Thursday. The rainfall was ·258 inch on three days, ·195 inch being measured on Saturday. The wind was chiefly S.S.W.

Very unsettled, rough, wet weather prevailed in all districts during the week ended Saturday, the 12th. Sunday was the only thoroughly fine day, but before night cirriform cloud had overspread the sky from the westward, ushering in a deep depression, the centre of which had reached the portion of St. George's Channel between Wexford and Pembroke by 8 a.m. on Monday. A very perfect circulation of strong winds and gales round the cyclonic system was observed. The depression travelled across England and the North Sea to Northern Germany at a great rate. The accompanying rainfall was very heavy in and about Dublin and at Shields. On Tuesday another depression advanced to the North of Scotland, but this was soon overshadowed by a much more serious disturbance, near the centre of which the barometer fell to 27·93 inches at

8 a.m. of Thursday, the 10th, at Sumburgh Head in the Shetland Islands. At this time the barometer stood at 30·32 inches at Lisbon and 30·14 inches at Biarritz. Large quantities of rain or sleet and hail fell, and storms prevailed not only all over the British Islands, but in France, Germany, and Scandinavia also. Thunder and lightning occurred in many parts of Ireland and in the South of England. After a few hours of fair weather on Friday afternoon the weather again became wet and stormy on Saturday. In Dublin the mean pressure was 29·550 inches, the barometer ranging between 28·814 inches at 4 p.m. of Thursday (wind, W.S.W.) and 30·037 inches at 9 p.m. of Friday (wind, W.). The corrected mean temperature was 44·3°. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 43·3°. The screened thermometers rose to 54·2° on Thursday and fell to 33·5° on Saturday. Rain fell daily, the total amount being 2·319 inches, and ·747 inch being credited to Sunday, ·612 inch to Wednesday, and ·617 inch to Saturday. The prevailing wind was westerly.

In the course of the week ended Saturday, the 19th, the weather underwent a complete change over Western Europe. Until Wednesday, the 16th, the distribution of atmospherical pressure was cyclonic, and the weather was for the most part rough, mild, and rainy; except in the North of Scandinavia, where severe cold prevailed, the thermometer reading—12° on Sunday and—14° on Tuesday at Haparanda on the Gulf of Bothnia. In the rear of a depression, which lay over Denmark and the North Sea on Wednesday morning, the barometer rose with great rapidity, so that by 8 a.m. of Thursday a tongue of high pressure, with readings above 30·4 inches, stretched across Norway, the North Sea, England, and the English Channel, to Normandy in France. Within this zone temperature fell fast, so that sharp frost began to be felt at the inland English stations. In Ireland and Scotland, however, southerly winds prevailed and temperature remained steady or even rose. On Thursday night the thermometer fell to 22° at York and Loughborough and to 25° at Oxford. The anticyclone continued to develop until Saturday, when the barometer exceeded 30·75 inches in Holland and Belgium. In Dublin the mean atmospherical pressure was 30·029 inches, the range being from 29·011 inches at 9 a.m. of Sunday (wind, W.N.W.) to 30·497 inches at 9 a.m. of Saturday (wind, S.S.E.). The corrected mean temperature was 44·3°. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 43·6°. The screened thermometers rose to 54·8° on Tuesday and fell to 37·0° on Saturday. The rainfall was ·206 inch on four days, ·100 inch being referred to Monday. The prevailing winds were W.N.W. and S.S.E.

In the fourth week (20th–26th inclusive), very intense cold, with dense fogs, prevailed over the greater part of England until Saturday. In the East of Ireland also the cold was of considerable intensity until



Christmas Day, when a thaw occurred, followed by rain and moderate to fresh S.W. winds on Saturday. Over the greater part of Norway and of Scotland and on the west coast of Ireland, there was an almost complete absence of frost during the week, owing to the prevalence of a southerly to westerly air-current in those localities. The cold in England was due to an anticyclone, which first formed on Thursday, the 17th, and persisted until Friday, the 25th. One of the most striking features accompanying the calm of the anticyclone was the density and persistence of the fog in the London district. For more than 70 hours the metropolis was wrapped in Cimmerian darkness by day as well as by night. In Dublin the fog was thick at times, but much pleasant sunshine was enjoyed at intervals. The mean height of the barometer was 30·226 inches, pressure decreasing from 30·610 inches at 9 a.m. of Monday (wind, calm) to 29·341 inches, at 4 p.m. of Saturday (wind, S.W.). The corrected mean temperature was 36·1°. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 34·5°. The screened thermometers fell to 25·2° on Tuesday and rose to 54·7° on Saturday. Rain was measured on two days, the total quantity being ·047 inch, of which ·038 inch fell on Saturday. The prevailing winds were S.S.E. and S. The rise of temperature towards the close of the week spread from Spain across France to the British Islands.

As compared with the previous week, the closing period (27th–31st inclusive) was much milder; but the weather was in an unsettled, showery condition for the most part. The barometer was lowest over the Norwegian Sea, highest over the Peninsula. Temperature was generally above the average for the time of year over the greater part of Europe—the excess of warmth on the Continent on Wednesday and Thursday being particularly noticeable. Rain fell frequently, sleet and hail in Scotland, with a thunderstorm at Stornoway on Tuesday evening. In Dublin the rainfall was not very heavy, but the five days all yielded an appreciable measurement. The screened thermometers rose to 52·5° on Tuesday. The prevailing winds were S.W. and W., set in on the evening of the 31st.

The rainfall in Dublin during the year ending December 31st has amounted to 27·820 inches on 184 days, compared with 27·562 inches on 200 days in 1890, 27·272 inches on 193 days in 1889, 28·679 inches on 190 days in 1888, 16·601 inches on 160 days in 1887, and a 25 years' average of 27·696 inches on 194·3 days.

At Knockdolian, Greystones, Co. Wicklow, the rainfall in December, 1891, was 4·680 inches, distributed over 23 days. Of this quantity 1·160 inches fell on the 6th, and ·940 of an inch on the 12th.

From January 1st to December 31st, 1891, rain fell at Knockdolian, Greystones, on 178 days, and to the total amount of 34·949 inches.

## RAINFALL IN 1891,

*At 40 Fitzwilliam-square, West, Dublin.*

*Rain Gauge:—Diameter of funnel, 8 in. Height of top—Above ground 3 ft. 2 in. ; above sea level, 50 ft.*

| Month            | Total Depth | Greatest Fall in 24 Hours. |      | Number of Days on which .01 or more fell |
|------------------|-------------|----------------------------|------|------------------------------------------|
|                  | Inches      | Depth                      | Date |                                          |
| January, - - -   | ·672        | ·181                       | 20th | 14                                       |
| February, - - -  | ·042        | ·024                       | 13th | 2                                        |
| March - - -      | ·936        | ·220                       | 14th | 16                                       |
| April, - - -     | 1·553       | ·482                       | 3rd  | 14                                       |
| May, - - -       | 2·792       | ·600                       | 28th | 17                                       |
| June, - - -      | 2·753       | ·604                       | 24th | 14                                       |
| July, - - -      | 2·187       | ·401                       | 3rd  | 15                                       |
| August, - - -    | 4·953       | ·985                       | 8th  | 25                                       |
| September, - - - | 2·132       | ·563                       | 19th | 18                                       |
| October, - - -   | 3·590       | 1·176                      | 13th | 13                                       |
| November, - - -  | 2·911       | 1·229                      | 10th | 15                                       |
| December, - - -  | 3·299       | ·747                       | 6th  | 21                                       |
| Total, - - -     | 27·820      | —                          | —    | 184                                      |

The rainfall was only ·124 of an inch in excess of the average annual measurement of the twenty-five years, 1865–89, inclusive—viz., 27·696 inches.

It will be remembered that the rainfall in 1887 was very exceptionally small—16·601 inches, the only approach to this measurement in Dublin being in 1870, when only 20·859 inches fell, and in 1884, when the measurement was 20·467 inches. In seven of the twenty-five years in question the rainfall was less than 26 inches, and in 1885 it was 26·614 inches.

The scanty rainfall in 1887 was in marked contrast to the abundant downpour in 1886, when 32·966 inches—or as nearly as possible double the fall of 1887—fell on 220 days. Only twice since these records commenced has the rainfall in Dublin exceeded that of 1886—namely, in 1872, when 35·566 inches fell on 238 days, and in 1880, when 34·512 inches were measured on, however, only 188 days.

In 1891, there were 184 rainy days, or days upon which not less than .01 inch of rain (one hundredth of an inch) was measured. This was in defect of the average number of rainy days, which was 194·3 in the twenty-five years, 1865–89, inclusive. In 1868—the warm dry year of recent times—as well as in 1887, the rainy days were only 160, and in 1870 they were only 145. In 1868, however, the rainfall amounted to 24·935 inches, or more than 8 inches above the measurement in 1887, and even in 1870, 20·859 inches were recorded.

The rainfall in 24 hours from 9 a.m. to 9 a.m. exceeded one inch on two occasions, viz.—October 13th (1·176 inches), and November 10th (1·229 inches). On August 8th, also, nearly an inch fell (·985 inch).

Included in the 184 rainy days in 1891 are 12 on which snow or sleet fell, and 25 on which there was hail. In January hail was observed on 2 days, in March on 9 days, in April on 2 days, and in May on 8 days. Hail also fell once in June, August, October, and December. Snow or sleet fell on 3 days in January, on 7 days in March, on 2 days in May, and on 1 day in September, November, and December. Thunder occurred on nine occasions during the year—once in May and September, twice in June and July, and three times in August. Lightning was also seen on one occasion in each of the following months—viz., August and September, and three times in October.

The rainfall was distributed as follows:—1·650 inches fell on 32 days in the first quarter, 7·098 inches on 45 days in the second, 9·272 inches on 58 days in the third, and 9·800 inches on 49 days in the fourth and last quarter.

The rainfall in the first six months was only 8·748 inches, on 77 days—that is, not one-third of the year's record. In August, as much as 4·953 inches fell on 25 days.

Of the 9·800 inches which fell in the fourth quarter of the year, 3·590 inches were measured in October on, however, only, 13 days, and 3·299 inches in December on 21 days.

J. W. MOORE, B.A., M.D., Univ. Dubl.; F.R.C.P.I.; F.R. Met. Soc.

*Abstract of Meteorological Observations taken at Dublin (40 Fitzwilliam-square, West) during the Year 1891.*

| MONTH                       | Abs. Max. | Date        | Abs. Min. | Date     | Mean Daily Max. | Mean Daily Min. | Rainfall    | Rainy Days | Mean Height of Barometer | Highest Pressure | Date      | Lowest Pressure | Date      | Prevalent Winds |
|-----------------------------|-----------|-------------|-----------|----------|-----------------|-----------------|-------------|------------|--------------------------|------------------|-----------|-----------------|-----------|-----------------|
| January                     | ° 53·7    | 26th & 28th | ° 23·9    | 7th      | ° 44·5          | ° 35·6          | Ins. .672   | 14         | Ins. 30·085              | Ins. 30·875      | 14th      | Ins. 29·337     | 23rd      | S.W., W.        |
| February                    | ° 61·9    | 23rd        | ° 30·1    | 9th      | ° 51·0          | ° 38·3          | ° 0·42      | 2          | 30·398                   | 30·725           | 5th       | 29·824          | 26th      | W., S.W. Calm   |
| March                       | ° 57·9    | 1st         | ° 27·1    | 12th     | ° 47·5          | ° 35·8          | ° 936       | 16         | 29·858                   | 30·470           | 3rd       | 29·052          | 15th      | W., N.W., N.    |
| April                       | ° 65·7    | 30th        | ° 33·1    | 10th     | ° 51·3          | ° 40·0          | 1·553       | 14         | 29·964                   | 30·342           | 20th      | 29·383          | 5th       | S.E., E.N.E.    |
| May                         | ° 67·8    | 12th        | ° 32·8    | 18th     | ° 56·4          | ° 42·8          | 2·792       | 17         | 29·799                   | 30·293           | 12th      | 29·237          | 1st       | N.W., N.E.      |
| June                        | ° 73·8    | 23rd        | ° 43·9    | 10th     | ° 65·0          | ° 53·0          | 2·753       | 14         | 30·014                   | 30·407           | 12th      | 29·457          | 29th      | N.E., E.        |
| July                        | ° 72·8    | 16th        | ° 46·8    | 10th     | ° 64·8          | ° 53·2          | 2·187       | 15         | 29·936                   | 30·365           | 14th      | 29·434          | 6th       | N.W., S.W.      |
| August                      | ° 69·2    | 11th        | ° 45·6    | 30th     | ° 63·4          | ° 52·8          | 4·953       | 25         | 29·731                   | 30·217           | 6th       | 28·949          | 25th      | W., S.W., N.W.  |
| September                   | ° 75·6    | 10th        | ° 44·8    | 7th      | ° 63·5          | ° 51·6          | 2·132       | 18         | 29·902                   | 30·271           | 15th      | 29·076          | 1st       | S.W., W., S.    |
| October                     | ° 62·7    | 4th         | ° 33·0    | 25th     | ° 55·0          | ° 44·0          | 3·590       | 13         | 29·626                   | 30·647           | 31st      | 28·251          | 13th      | S., S.W., W.    |
| November                    | ° 57·8    | 18th        | ° 31·4    | 24th     | ° 48·1          | ° 38·7          | 2·911       | 15         | 29·782                   | 30·693           | 5th       | 28·524          | 11th      | S.W., W.        |
| December                    | ° 58·0    | 3rd         | ° 25·2    | 22nd     | ° 48·0          | ° 37·9          | 3·299       | 21         | 29·818                   | 30·610           | 21st      | 28·814          | 10th      | W., S.W., S.    |
| Extremes, Totals, and Means | ° 75·6    | Sept. 10th  | ° 23·9    | Jan. 7th | ° 54·9          | ° 43·6          | Ins. 27·820 | Days 184   | Ins. 29·909              | Ins. 30·875      | Jan. 14th | Ins. 28·251     | Oct. 13th | W., S.W.        |

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*January 1, 1892.*

## PERISCOPE.

### ALVARENGA PRIZE OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA.

THE College of Physicians of Philadelphia announces that the next award of the Alvarenga Prize, being the income for one year of the bequest of the late Señor Alvarenga, and amounting to about one hundred and eighty dollars, will be made on July 14, 1892. Essays intended for competition may be upon any subject in Medicine, and must be received by the Secretary of the College, Charles W. Dulles, on or before May 1, 1892. It is a condition of competition that the successful essay or a copy of it shall remain in possession of the College.

### HOW TO COOK A HUSBAND.

MORE than a decade ago, in the Baltimore Cooking School, the following recipe for "Cooking a husband so as to make him tender and good," was contributed by a lady, presumably of experience:—"A good many husbands are utterly spoiled by mismanagement. Some women go about it as if their husbands were bladders, and blow them up. Others keep them constantly in hot water; others let them freeze by their carelessness and indifference. Some keep them in a stew by irritating ways and words. Others roast them. Some keep them in pickle all their lives. It cannot be supposed that any husband will be tender and good managed in this way, but they are really delicious when properly treated. In selecting your husband you should not be guided by the silvery appearance, as in buying mackerel, nor by the golden tint, as if you wanted salmon. Be sure and select him yourself, as tastes differ. Do not go to the market for him, as the best are always brought to your door. It is far better to have none unless you will patiently learn how to cook him. A preserving kettle of the finest porcelain is best, but if you have nothing but an earthenware pipkin it will do, with care. See that the linen in which you wrap him is nicely washed and mended, with the required number of buttons and strings nicely sewed on. Tie him in the kettle by a strong silk cord called comfort, as the one called duty is apt to be weak. They are apt to fly out of the kettle and be burned and crusty on the edges, since, like crabs and lobsters, you have to cook them while alive. Make a clear, steady fire out of love, neatness, and cheerfulness. Set him as near this as seems to agree with him. If he sputters and fizzes do not be anxious; some husbands do this till they are quite done. Add a little sugar in the form of what confectioners call kisses, but no vinegar or pepper on

any account. A little spice improves them, but it must be used with judgment. Do not stick any sharp instruments into him to see if he is becoming tender. Stir him gently; watch the while, lest he lie too flat and close to the kettle, and so become useless. You cannot fail to know when he is done. If thus treated you will find him very digestible, agreeing nicely with you and the children, and he will keep as long as you want, unless you become careless and you set him in too cold a place."—*Examiner and Times and Register*, Dec. 19, 1891.

#### ANTINERVINE.

THIS is the fanciful name given by the discoverer, Dr. Bradfutt, of Philadelphia, to salicylbromanilide. It is a white crystalline powder, odourless, having an acid taste, soluble in alcohol, ether, and warm water, and slightly so in cold water. The discoverer credits it with having antithermic, analgesic, and tonic properties. Acute rheumatism, neuralgia, and *angina pectoris* are relieved by it, and in typhoid it relieves headache and gives sleep. Our contemporary is not, however, satisfied about this latest addition to our therapeutic remedies, and exhibits a want of faith in its curative powers, and goes on to say that it is not a chemical compound at all, but simply an admixture of the following drugs:—Bromide of ammonium, 25 parts; salicylic acid, 25 parts; acetanilide, 50 parts. Mix.—*Répertoire de Pharmacie*, No. 8, 1891.

#### LÉVOISNE.

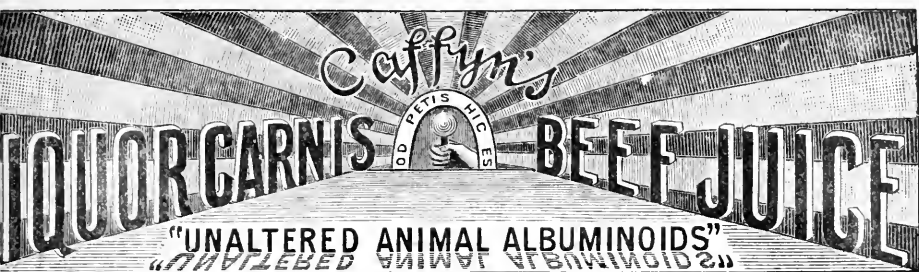
M. TANRET (*Répertoire de Pharmacie*, No. 8) has succeeded in isolating a new hydro-carbon, lévoïsne, from cereals. He experimented successfully on rye, barley, and oats. To "lévoïsne" M. Tanret has given the formula  $C_{48}H_{40}O_{40}$ , the same formula as amidon and dextrine. It turns the plane of polarised light to the left hand, hence the name; it is of a white colour, amorphous, insipid, soluble in water, very soluble in dilute alcohol, sparingly so in the strong liquid. It does not reduce copper, and is not affected by alkaline solutions.

#### ANOTHER REMEDY FOR WHOOPING-COUGH.

M. CHIBERT declares that he has rapidly stopped the kinks of whooping-cough by sprinkling finely powdered iodoform on the child's pillow.—*Répertoire de Pharmacie*, No. 8, 1891.

#### ITCH OINTMENT.

THE following formula appears in our contemporary, *Les Nouveaux Remèdes*, No. 13, for the itch:—Petroleum, 40 parts; white wax, 40 parts; alcohol, 50 parts; soap, 100 parts. Make an ointment.



## BLOODLESSNESS IN GIRLS.

*Fac rpt*:—"By the term Bloodlessness or Anaemia, we mean a condition which manifests itself in loss of the natural rosy hue of health, in the blanched lips, and in languor and complete unfitness for exertion. It occurs in other persons besides girls—in the overworked student, and in the harassed man of business; but for its full development we look to those of the gentler sex who are just passing over the threshold of womanhood, girls, now in the most critical period of their lives, from whom Nature is demanding her dues, and who are usually only too carelessly prepared by their mothers and guardians for the changes taking place within them. How often we see young women pale, languid, complaining of palpitation, shortness of breath, headache, want of appetite, and indigestion. And if we

### ENQUIRE INTO THEIR HABITS

and mode of life, what do we find? Many are in service or in shops, shut up often for hours together in close, stuffy rooms; others in a town, leading an artificial life with balls, parties, etc., late to bed and late to rise—all have little healthy outdoor exercise, and all are sadly too fond of tea, cakes, and other confectionery. They pore for hours over novels and sickly sentimental stories, becoming weaker and weaker, until at last their friends take notice of their condition, and the tedious work of repair has to be commenced. The poor girl has to take her doses of iron, or it may be two or three Bland's Pills, three times a day, and very often beef-tea also is ordered. Now, I daresay many persons, like the writer, do not like beef-tea, and it will be

### A BLESSING TO THEM

to hear of a more palatable substance, which also has the great advantage which beef-tea has not (as is well known)—namely, that of being nutritious. I mean \*Caffyn's Malto-Carnis, a preparation containing the nutritious Liquor Carnis (Caffyn), with a fat and heat-producing carbohydrate, extract of malt, and a refreshing, stimulant cocoa. When it is used the appetite soon picks up, aches and pains vanish, the roses return to the pale cheeks, and—'mens sana in corpore sano'—a bright and happy disposition makes a maiden a help and pleasure to all about her."

\* "CAFFYN'S MALTO-CARNIS consists of two-thirds (66%) of Caffyn's Liquor Carnis, 'uncooked juice of beef,' in combination with Extract of Malt and Cocoa."—*The Journal of Laryngology*.

"Nutritious and stimulating elements like these are rarely found combined in so satisfactory a manner."—*The Lancet*, August 29th, 1891.

### NOTE.

Caffyn's Liquor Carnis, Malto-Carnis, and allied Products of Raw-Beef. Juice are prepared from British Beef only—in London—at the Laboratories of The Liquor Carnis Co., in Farringdon Street—Smithfield Works—close to Smithfield Market.

# FOR DISEASES OF THE STOMACH, AND INDIGESTION *Lactopeptine.*

Exact Size and Shape  
of Bottle.



It is conclusively ascertained that LACTOPEPTINE will bring about the Digestion of Food in a manner perfectly identical to that obtained under the influence of the natural gastric juice.

THE extended use and adoption of LACTOPEPTINE by the MEDICAL PROFESSION affords indisputable evidence that its therapeutic value has been thoroughly established in cases of **Indigestion, Dyspepsia, Loss of appetite, Impoverished Blood, General Debility, Intestinal and Wasting Diseases of Children, Chronic Diarrhoea, Constipation, Vomiting in Pregnancy, Headache, Nausea, and all diseases arising from imperfect nutrition.**

From "RETROSPECT OF PRACTICAL MEDICINE AND SURGERY,"  
July, 1897.

"A glance at the formula of LACTOPEPTINE would convince even the most sceptical of the valuable results that must ensue through its administration. It is a combination of all the digestive agents, consequently can never be administered without giving the utmost satisfaction.

Extract from Certificate of Composition and Properties, by  
Professor ATTFIELD, Ph.D.,  
Professor of Practical Chemistry to the Pharmaceutical  
Society of Great Britain.

LONDON, May 3rd, 1882.

I now report that the almost inodorous and tasteless pulverulent substance termed Lactopeptine is a mixture of the three chief agents which enable ourselves and all animals to digest food. That is to say, Lactopeptine is a skillfully-prepared combination of meat-converting, fat-converting, and starch-converting materials, acidified with those small proportions of the acids that are always present in the healthy stomach; all being disseminated in an appropriate vehicle, namely, powdered sugar of milk. The acids used at the factory—lactic and hydrochloric—are the best to be met with, and are perfectly combined to form a permanent preparation; the milk sugar is absolutely pure; the powder known as "diastase," or starch-digesting (bread, potato, and pastry-digesting) material, as well as the "pancreatin," or fat-digesting ingredient, are as good as any I can prepare, while the pepsin is much superior to that ordinarily used in medicine. Indeed, as regards this chief ingredient, pepsin—I have only met with one European or American specimen equal to that made and used by the Manufacturer of Lactopeptine. A perfectly parallel series of experiments showed that any given weight of acidified pepsin alone at first acts somewhat more rapidly than Lactopeptine containing the same weight of the same pepsin. Sooner or later, however, the action of the Lactopeptine overtakes and outstrips that of pepsin alone—due, no doubt, to the meat-digesting, as well as fat-digesting, power of the pancreatin contained in the Lactopeptine. My conclusion is that Lactopeptine is a most valuable digesting agent, and superior to pepsin alone. JOHN ATTFIELD.

One of the chief features of LACTOPEPTINE (and the one which must gain it a preference over all digestive preparations) is, that it *precisely represents in composition the natural digestive juices of the stomach, pancreas, and salivary glands*, and will therefore readily dissolve all foods necessary to the recuperation of the human organism.

**Dose.**—ONE-THIRD that of cheap substitutes, and giving results not within the compass of any other agent.

Prices of Lactopeptine:—1 oz., 4s. 6d.; 4 oz., 14s.; 8 oz., 27s.

Unstamped, for Dispensing Only—Quarter Pound (4 oz.), 12s.; Half-pound (8 oz.), 24s.

**Lactopeptine is prepared solely by JOHN M. RICHARDS,**

• (Late Great Russell Street) **46 Holborn Viaduct, London, E.C.**

**NOTE.**—A 64-page pamphlet and Sample of Lactopeptine sent to the Medical Profession, on request.



CLUB ALE. CLUB SODA. CLUB LEMONADE.

# Cantrell & Cochrane's

PURVEYORS  
TO H.R.H.  
THE  
PRINCE OF WALES



PURVEYORS TO  
HER MAJESTY'S HOUSES OF PARLIAMENT



NASSAU WORKS  
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WOODSTOCK ST OXFORD ST  
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Only Makers of Sparkling **"MONTSERRAT,"**  
The Drink for the Gouty and Rheumatic.

## Bullock's Pepsina Porci. DOSE— 2 to 4 grains

Since the introduction by Dr. LIONEL BEALE of PEPSINA PORCI,  
Mr. BULLOCK has devoted special attention to its manufacture.

## Bullock's Acid Glycerine of Pepsine. DOSE— 1 to 2 drms.

*Possesses at least three times the digestive power of (and in most cases considerably more than) any other preparation of Pepsine and Glycerine, or fluid form of Pepsine whatever.*

May be prescribed with most substances compatible with Acids.

In 4 oz., 8 oz., and 16 oz. Bottles, and in Bulk.

The published experiments of G. F. DOWDESWELL, Esq., M.A., Cantab., F.C.S., F.L.S., &c., Dr. PAVY, Professor TUSON, the late Professor GARROD, and others, conclusively demonstrate the marked superiority of BULLOCK'S PEPSINA PORCI AND ACID GLYCERINE OF PEPSINE over every other Pepsine, or preparation of Pepsine—ENGLISH, FRENCH, GERMAN, OR AMERICAN.

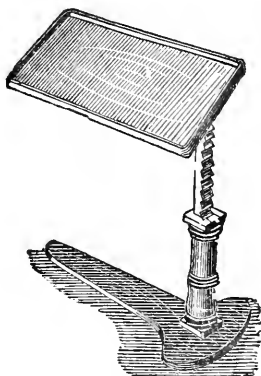
\* \* In prescribing either of the above preparations, it is suggested to insert in parentheses, as follows (**BULLOCK**).

**J. L. BULLOCK & CO.,**  
3 Hanover-street, Hanover-square, London, W.

# Leveson & Son's Invalid Furniture.

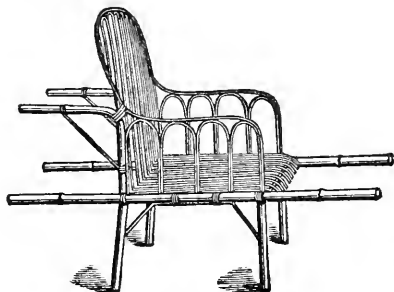
**READING STAND.***Brass Column and Bronzed Stand.*

|                      |   |   |    |    |   |
|----------------------|---|---|----|----|---|
| Polished Walnut Desk | - | - | £1 | 1  | 0 |
| Circular Tube        | - | - | 0  | 7  | 6 |
| Brass Lamp           | - | - | 0  | 10 | 6 |

**BED TABLE.**

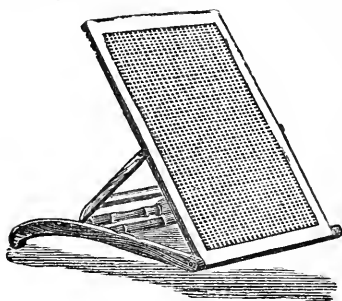
This can also be used, as shown above, as a  
Reading or Writing Desk.

|                           |   |    |   |   |
|---------------------------|---|----|---|---|
| Birch polished any colour | - | £2 | 5 | 0 |
| Walnut, Mahogany, or Oak  | - | 3  | 3 | 0 |

**CARRYING CHAIR.**

This light Carrying Chair is made entirely of  
Cane and Malacca, with Bamboo Handles,  
and is very comfortable.

Prices - - 21/-, 25/-, 35/-, and 42/-

**BED REST,**

From 12/6- to 21/-

Spinal Board, £1, £1 10s.; and £1 15s.  
Spinal Carriages from 8 to 20 Guineas.

Full particulars on  
application

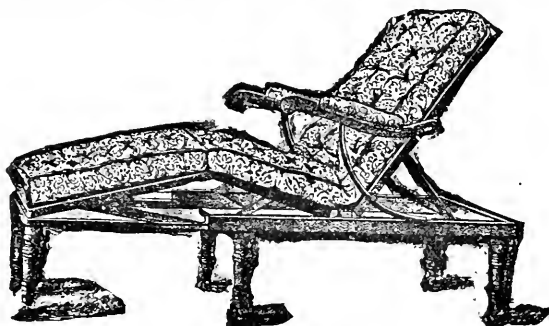
AGENTS FOR IRELAND:

**FANNIN & COMPANY,**  
Surgical Instrument Makers,  
**41 GRAFTON STREET, DUBLIN.**

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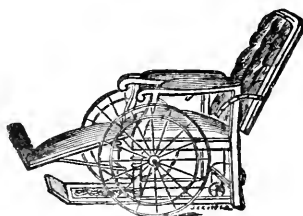
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**ILKLEY COUCH.**

This Couch can be adjusted to any required position. Price from 2 to 10 Guineas.

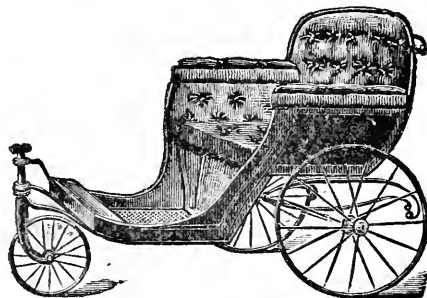
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Made of solid wood, Oak or Mahogany, from 4½ to 17 Guineas.

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WICKER BATH-CHAIRS, from 3 to 6 GUINEAS.  
LEG RESTS, INVALID WATER BEDS and CUSHIONS, AIR CUSHIONS CRUTCHES  
and every description of Surgical and Medical Appliances for Invalids.

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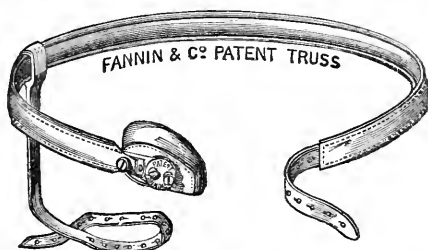
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**Surgical Instrument Makers,**

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**A Complete Catalogue sent free on application**

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The only Truss ever invented on correct Surgical and Anatomical principles for the relief and cure of Hernia.

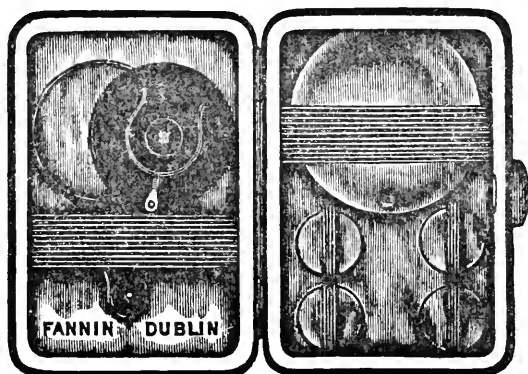
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*Registered Telegraph Address—"FANNIN, DUBLIN."*

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Designed by Dr. A. H. BENSON.

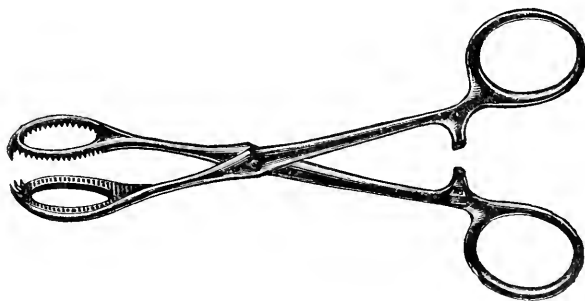
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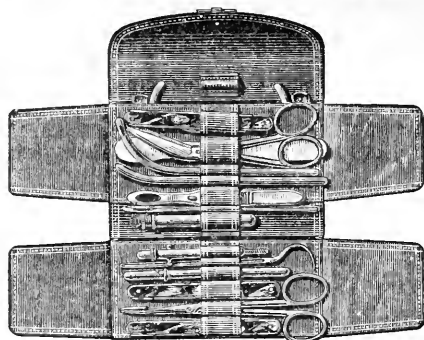
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FOR THE  
REMOVAL OF STRUMOUS GLANDS, &c.  
Price 10s. 6d.



“HAVING experienced considerable difficulty in the removal of strumous glands, owing to their friable character, when caught with the ordinary clip forceps, I had this instrument (as shown) made by Messrs. FANNIN & CO., and find it most useful for the purpose. The blades coming in contact only at the apex, the gland is received within the fenestrated portion, and thus is not broken. The instrument will also be found useful in the removal of any morbid growth.

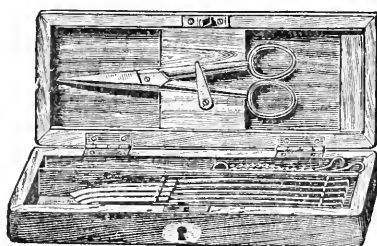
“FRANCIS T. HEUSTON, M.D., F.R.C.S.I.,  
*Surgeon, Adelaide Hospital, Dublin ;*  
*Professor of Anatomy, Royal College of Surgeons, Ireland ;*  
*Consulting Surgeon, Coombe Hospital, Dublin.”*

# FANNIN & COMPANY.



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|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|---|
| No. 1. | Contains Spatula, Director, Silver Probe, Forceps, Scissors, Tenotome, Tenaculum, and Syme's Knife, in shell handles, Caustic Holders, half-dozen Needles, and Silk, in leather case,                                                                                                                                                                    | s. d. |   |
|        |                                                                                                                                                                                                                                                                                                                                                          | 18    | 6 |
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| No. 3. | Contains Spatula, Scissors, Forceps, 2 Silver Probes, Director, Silver and Vulcanite Caustic Holder, Wakley's Artery Forceps, Syme's Knife, Tenotome, Scalpel and Probe Bistoury, Gum Lancet and Tenaculum, in shell handles, Needles and Silk, Silver Wire, in leather case,                                                                            | 42    | 0 |
| No. 4  | Contains a Silver-plated Spatula, Plated Caustic Case and Tumour Needle, Scissors, Silver-plated Director, Trocar and Canula, Forceps, Wakley's Artery Forceps, 2 Silver Probes, Syme's Knife, Pollock's Knife, Scalpel and Probe Bistoury, Gum Lancet and Tenaculum, in shell handles, Plated Female Catheter, Needles, and Silk, in best morocco case, | 60    | 0 |



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|        | Single Scalpels, 1s. and 1s. 6d. each.                                                  |    |   |

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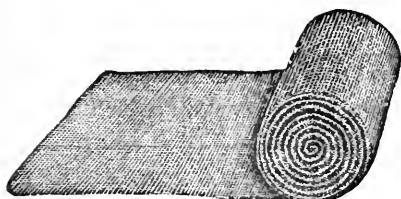
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# Lister's Antiseptic Dressings, OF EVERY DESCRIPTION. GENUINE QUALITY ONLY.

Manufactured under the instructions of Prof. Sir JOSEPH LISTER, Bart., F.R.S., F.R.C.S., &c., since their introduction in 1870, by JOHN MILNE ONLY, Antiseptic Dressings Factory, Ladywell, London.

## GAUZES.



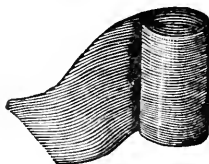
(The most largely used.)

## DOUBLE CYANIDE GAUZE,

Put up in 100 and 12 yard rolls, and as used in the leading Hospitals at Home and Abroad.

*Also see List.*

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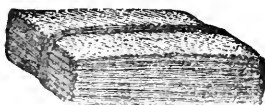
**ANTISEPTIC ALEMBROTH BANDAGES,  
POROUS OPEN-WOVE BANDAGES,**  
for Plaster of Paris. *Also see Illustrated Price List.*

## LIGATURES.



**Antiseptic (Carb.)  
Ligatures,**  
on stopper-fixed reels.  
These are the well-known reel-fitted Octagons. Each bottle contains three distinct sizes unless otherwise ordered.

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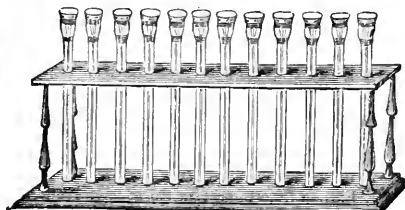
## ANTISEPTIC ALEMBROTH COTTON WOOL

(The most largely used).

**Also Salufer, Sanitas, Carbolic,  
Eucalyptus, Thymol, Salicylic,  
Iodoform, Double Cyanide  
Wools, &c.**

*Also see List.*

## LIGATURES.



(The most largely used.)

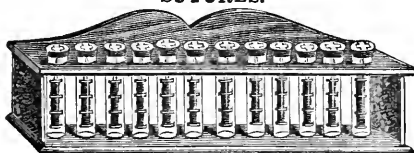
## ANTISEPTIC (Carb.) LIGATURES.

IN STRAIGHT (12 inch) LENGTHS, SUSPENDED BETWEEN  
FIXED PLUGS.

No waste, entanglement, leakage, cracks, inconvenience, or soiling of the hands or surroundings.

*Also see List*

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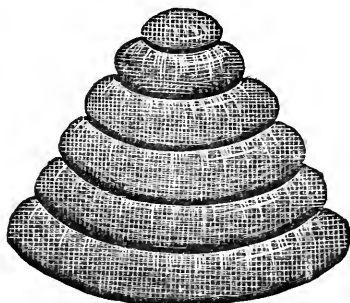
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ON STOPPER-FIXED REELS.

Treble usual quantities. Three distinct sizes in each flask. *Also see List.*

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**'Tampons,' 'Plugs,' 'Sponges,' Alem-  
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All Shapes and Sizes. *See List.*

THE WHOLE OF ABOVE ARE KEPT IN STOCK BY  
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Price List on application.

# COLEMAN'S WINCARNIS

OR

LIEBIG'S EXTRACT OF MEAT AND MALT WINE.

## WINCARNIS

*Is a New Name Registered  
to prevent fraudulent  
Imitations.*

Extract from Important Unsolicited Testimonial from **G. HOTHER, Esq., M.R.C.S., L.S.A.L.**  
**OVER TWO THOUSAND** have been received from Medical Men.

7 St. John's Terrace, Lewes, October 7th, 1890.

To Messrs. Coleman & Co., Limited.—I have been attending a child, two and a-half years old, suffering from Blood Poisoning; the child was very ill, and refused all kinds of nourishment. I then tried your Liebig's Extract of Meat and Malt Wine. Alcoholic, ordered him one tablespoonful every two hours, which he took readily; he had nothing else except medicine for fourteen days. The child is now recovering and takes ordinary food.

Yours truly, **GEO. HOTHER, Surgeon.**

## WINCARNIS

Is sold by all Druggists, Wine Merchants, and Patent Medicine Vendors in the United Kingdom, in Bottles 2s. 9d. and 4s. 6d. each. Ask for COLEMAN'S "WINCARNIS," or LIEBIG'S EXTRACT OF MEAT AND MALT WINE, and see that the word "WINCARNIS" is on the shoulder of bottle.

If there is any difficulty in getting the Wine, write direct to the manufacturers, who will forward

**Sample Pint Bottle free by Post on receipt of 33 Stamps.**  
" Dozen " " " Rail " 30s.

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Sole Proprietors of "OSMAZON," the New Beef Tea, and also Coleman's Crown Imperial Invalid Stout, which is strongly recommended by the Medical Faculty

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VAN ABBOTT'S GLUTEN BREAD.  
SOYA BREAD, RUSKS, BISCUITS.

**D** IABETES.

And all suitable Foods for Diabetic Patients, Sweetened with Saccharin or Plain.

**D** ELICATE  
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VAN ABBOTT'S  
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OF LIME BISCUITS.

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VAN ABBOTT'S  
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THE NATURAL MINERAL WATERS OF  
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For Diseases of the Kidneys, Gravel, Gout, Rheumatism, Diabetes, &c.

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For Stomach Complaints.

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An Excellent TABLE WATER.

SAMPLES and PAMPHLET FREE to MEMBERS of the MEDICAL  
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**ELECT COCOA**

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1889, 1890  
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**PURITY—STRENGTH—FLAVOUR.**

The COCOA WORKS, York, England.

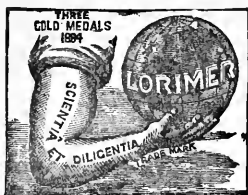
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"SYRUP HYPOPHOSPH. CO.

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## HYPOPHOSPHITES.

NEUTRAL, DEFINITE, AND STATED FORMULA.  
PERMANENT. PRICE MODERATE.

## EXTRACT OF MALT.

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Prepared in vacuo. The BEST in the MARKET.

Protected by Her Majesty's Royal Letters Patent.



## Iodised Oil

(OLEUM IODI).

For Outward Application only.

ADVANTAGES.—Is readily absorbed. Does not stain the skin. May be  
applied to the most delicate skin without irritation.

WRITE FOR PRICE LIST OF LORIMER'S SPECIALITIES.

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# EUCALYPTUS <sup>PURE</sup> VOLATILE. SAMPLES <sup>Samples</sup> FREE. CITRIODORA FREE.

EUCALYPTUS MACULATA (VAR. CITRIODORA). (TIMBURY'S.)

Reprint from the *Lancet*, October 3rd, 1891.—This very interesting product differs from the ordinary eucalyptus oil, in that it is characterised by an exceptionally fragrant, penetrating and pleasing odour, resembling very closely the scented geranium. It is distilled from the young leaves of the eucalyptus maculata (var. citriodora), which grows in the Port Curtis district of Queensland. Very satisfactory results were yielded on examination, and the following factors which we obtained, demonstrate the eminent purity of this remarkable product: Specific gravity at 15° C., 0.872; boiling point, 190° to 195° C. This oil seems not only admirably fitted for all ordinary antiseptic and deodorising purposes, but it is also of probable value in the form of inhalation in pulmonary affections, and in the treatment of certain internal disorders.

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Distillery and Plantations.—GLADSTONE, QUEENSLAND.

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Materials used in the LISTERIAN System of SURGERY, and prepared from  
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For Fatigue of Mind and Body.

A WONDERFUL RESTORATIVE OF VOCAL, MENTAL, & PHYSICAL POWERS.

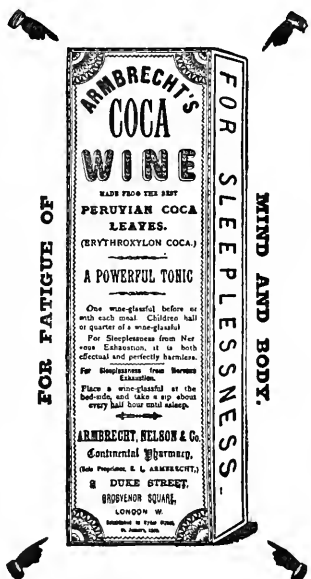
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Fresh Huanuco Coca Leaves.

Pure Madeira Wine, q.s.

Each Wineglassful contains the Extractive Properties of  
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**FRESH GREEN COCA LEAVES.**



*P.S.—This is the only Wine which contains the Extractive Properties of the GREEN and FRESH LEAVES, and is therefore much more efficacious than those wines made from the dry imported leaves.*

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A Sample Bottle free to Medical Men and Clergymen on receipt of professional card.  
**Professional Price, 40s., Carriage Paid.**

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## FOR INFANTS, CHILDREN, AND INVALIDS.

This delicious and highly nutritive Food was awarded the **GOLD MEDAL** at the International Health Exhibition, London, and has since received a High Award at every Exhibition at which it has been shown.

**BENGER'S FOOD** is well known to leading medical men, and is recommended by them.

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From an Eminent Surgeon.

"After a lengthened experience of Foods, both at home and in India, I consider 'Benger's Food' incomparably superior to any I have ever prescribed."

A Medical Man writes:—

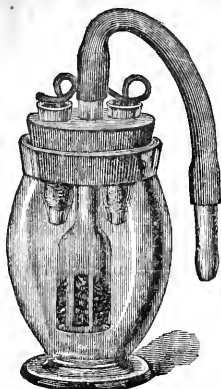
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### PROPOSITION :—

If one part of any soap in the market, opaque or otherwise, be dissolved in four parts of boiling water, an abundance of free alkali will always be present ; and all statements to the contrary are not correct.

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**Taste.**—If the tongue be rubbed on a piece of ordinary toilet soap, the alkali present will “bite.”

**Touch.**—When the skin is washed with ordinary soaps, alkali, either free or set free in hydrolysis, dries it.

**Smell.**—(a.) Soaps containing strong, powerful scents are usually made with bad fats, the powerful perfumes being used to cover the rancifying fats.

(b.) A freshly cut slice of ordinary transparent soap smells of methylated spirit.

(c.) The same held over a lighted match gives off an odour of burnt sugar.

(d.) Boiled with Fehling’s Solution, it gives a red precipitate, showing sugar.

### A SCIENTIFIC ADVANCE.

The Extra Cream in “VINOLIA” SOAP is the only possible antidote tending to guard the integument during hydrolysis, and to prevent any injurious action on delicate skins.

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The materials employed to superfat “VINOLIA” SOAP are entirely different and distinct from the mineral oils and saponifiable and unsaponifiable animal fats incorporated with the superfatted imitations of “VINOLIA” SOAP that have been foisted on the market since the introduction of that popular article.

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